MEASURING & TESTING EQUIPMENT

KAWAN LAMA INDUSTRIAL CATALOG 6

#15

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MEASURING AND TESTING EQUIPMENT

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From QUALITY BRANDS :

Mitutoyo
MARPOSS
Snap-on
Niigata Seiki
WYLER
WENZEL The company of µ
Fischer
RayVision
Kawatetsu Advantech Co.,Ltd
ElektroPhysik
ONOSOKI
KRISBOW
GOTECH
KYORITSU
Fexsoft
QNIX
TOP TECH
proceq
JOINT INSTRUMENTS
ASAHI
IMADA
VIBRA Measure the Future
EXTECH INSTRUMENTS A FLIR COMPANY
FLUKE
ISHIDA
Y.S.T.L
TECLOCK

Stereo Microscope

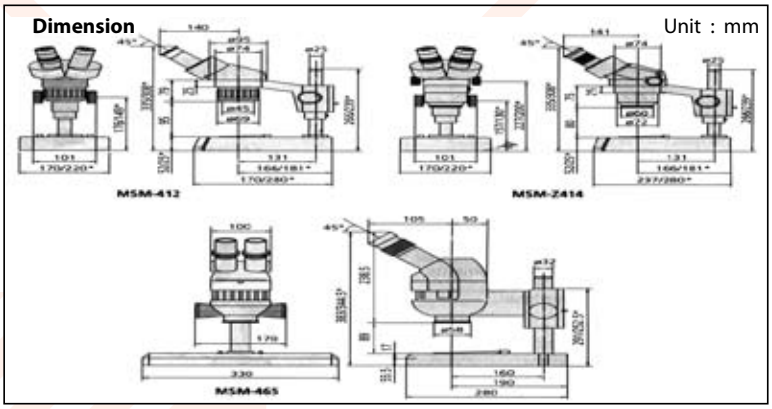
MSM-412

Features :

- Bright, sharp images with real depth are recreated with high resolution and excellent faithfulness to color, thus minimizing eye fatigue while increasing inspection efficiency and productivity
- The MSM series provides a full range of advanced functions at an affordable price. User-friendly turret types (MSM-413,MSM-465) and a zoom type (MSM-Z414) are available
- Continuous zooming, a standard feature, allows you to enlarge the object by 10 to 40 times in total magnification
- MSM series can be connected to a digital camera or CCD camera to save captured images of the object or for simultaneous observation through different media
- The extended depth of focus, long working distance and wide field of view increase work efficiency. The system is ideal for inspecting various objects such as electronic components, metal components, plants, mineral compositions and biological cells. Various attachments expand applications and use. Extended MSM units can be used for appearance inspections, on processing lines, inside inspection systems or in teaching environments

MSM-Z414

Dimension Unit : mm



Type	Description
377-925E	MSM-412 Stereo Microscopes
377-945E	MSM-Z414 Stereo Microscopes
375-065E	MSM-465 Stereo Microscopes

Specification		
Model	**MSM-412**	**MSM-Z414**
Optical System	Greenough's Type	Greenough's Type
Total Magnification	10x, 20x	10x to 40x
Optical Tub	Binocular	Binocular
Pupil Distance (mm)	54 – 76 (Adjustable)	54 – 76 Adjustable)
Eyepiece	WF10x, WF5X, WF15X, WF20X	WF10x, WF5x, WF15x, WF20x
Objective	1x, 2x	1x to 4x
Working Distance of Objective (mm)	Ø95	80
Focusing Travel (mm)	44	44
Max. Workpiece Height (mm)	93	95
Workstage Size (mm)	Ø95	Ø95
Dimension (mm)	151x285x343	151x285x343
Mass (kg)	4.9 (377-925B)	5.3 (377-945B)
	4.7	5.1

CUTTING MACHINE

TOP TECH

Precision Abrasive Cutting Machine

CK-200 50A
CK-200 35A

CK-200 50
CK-200 35

Good Quality Precission Cutting

Features :

- The push-pull quick clamping vice with double stands is applied (new patent), which can conduct tests for 100,000 times
- The main shaft has roller bearings of high precision and combinatorial obliques with rsdial and axial loading capacities as well as endurable operation under high rotational speed
- Excellent cooling effect can be achieved through four cooling water pipes, two fixed cut-off wheels and two mobile work pieces
- The special magnetic water spray gun is more convenient in cleaning and can be placed at any locations
- The safety feature of this cutting machine will active while the cover is not fully in down position, the machine will not operate
- As floating steel balls are installed under the cooling water tank, cleaning and handling are even more convenient
- The removable filter cylinder/element and the outlet valve are installed inside the cooling water tank to for easy cleaning
- The pneumatic support lever is used for the upper lid to make operation safe and easy
- The current meter can display loads of the cutting motor
- The machine is powder painted without toxicity

Specification					
Model No.		**CK200-50**	**CK200-35A**	**CK200-50A**	**CK200-35A**
Work Piece Dimensions		Max. . Ø50mm, 20t x 60L	Max. . Ø35mm, 15t x 60L	Max. . Ø50mm, 20t x 60L	Max. Ø35mm, 15t x 60L
Cut-0ff Wheel		Max. . Ø255 x Ø31.75	Max. . Ø230 x Ø 31.75	Max. . Ø255 x Ø31.75	Max. Ø230 x Ø31.75
Cutting Method		Hand wheel control		Auto Return to The Origin After Cutting Finished	
				Feeding and Retreat Speeds Are Adjustable	
Feeding Device	**Auto**			Button Control, Return to The Origin After Auto Cutting Finished	
	Manual			Hand Wheel or Button Control	
Rotational Speed of Cutting Main Shaft		3000rpm/2500rpm (60/50HZ)		3000rpm/2500rpm (60/50HZ)	
Cutting Stroke of Main Shaft		200 mm			
Cutting Clamps		Dual Cutting Clamp, Double Clamping Quick Push-Pull Type Clamp, Max. . Opening: 60mm, the Whole Set of Clamp can Move Right and Left for 12mm			
Cutting Power		2 Hp-3 Ø	1 Hp-3 Ø	2 Hp-3 Ø	1 Hp-3 Ø
Cooling Devide		1/8hp-3 Ø (Auto Recycle Cooling)			
Water Tank Capacity		12gal			
Machine Size		870x810x1450(H)mm			
Machine Type		Floor Top			
Power Supply		AC220V-3 Ø (380V , 415V , 440V)			
Standard Accessories		Tools 1set, Cutting Wheels 2pcs, Cooling Oil 2l			
Machine Weight (Kg)		245kgs	240kgs	253kgs	240

Type	Description
CK200-50A	Automatic Cutting Machine, Ø50mm
CK200-35A	Automatic Cutting Machine, Ø35mm
CK200-50	Manual Cutting Machine, Ø50mm
CK200-35	Manual Cutting Machine, Ø35mm

SYSTEM CERTIFICATION ISO 9001:2000 SGS
UKAS QUALITY MANAGEMENT 005
Certificate ID03/0077

CUTTING MACHINE

TOP TECH

Ultra - long Work Piece Cutting for Easy Positioning

Features :

- Oil hydraulic feeding cut for the main shaft and the speed is steady
- The main shaft moves up and down; it is the most suitable to cut very long work pieces

Model No:

- **CF200-50A**
- **CF250-70A**
- **CF280-90A**
- **CF330-120A**

CF002 Feeding end

CF002 Collection end and length positioning mechanism

Specification					
Model No.		**CF200-50A**	**CF250-70A**	**CF280-90A**	**CF330-120A**
Work Piece Dimensions		Max. Ø50mm 20t x 60L	Max. Ø70mm 20t x 100L	Max. Ø90mm 25t x 100L	Max. Ø120mm 20t x 120L
Cut-Off Wheel		Max. Ø255 x Ø31.75	Max. Ø300 x Ø31.75	Max. Ø350 x Ø32	Max. Ø406 x Ø32
Cutting Method		Auto Return to The Origin After Cutting Finished			
		Feeding and Retreat Speeds are Adjustable			
Feeding Device	**Auto**	Button Control, Return to the Origin After Auto Cutting Finished			
	Manual	Button Control			
Rotational Speed of Cutting Main Shaft		3000rpm/2500rpm (60/50hz)	2500rpm/2100rpm (60/50hz)		
Cutting Stroke of Main Shaft		200mm	250mm	280mm	330mm
Cutting Clamp		Dual Cutting Clamp. Max. Opening: 60mm	Dual Cutting Clamp. Max. Opening: 100mm	Dual Cutting Clamp. Max. Opening: 100mm	Dual Cutting Clamp. Max. Opening: 150mm
Cutting Power		2hp-3ø	3hp-3ø	5hp-3ø	10hp-3ø
Coolant Devide		1/8hp-3 Ø (Auto Recycle Cooling)	1/4hp-3ø (Auto Recycle Cooling)		
Water Tank Capacity		12gal	20gal	25gal	25gal
Machine Size		5500 x 1050 x 1770 (H) mm	5500 X 1050 x 1800 (H)mm	5500 X 1100 x 1850 (H)mm	5500 X 1100 x 1900 (H)mm
Machine Type		Floor Top			
Power Supply		AC220V-3 Ø (380V , 415V , 440V)			
Standard Accessories		Tools 1set, Cutting Wheels 2pcs, Cooling Oil 4l			
Main Shaft Feed Cutting		Main Shaft Oil Hydraulic Feed Cutting			
Optional Function Cf 001	**Cutting Load Protection Function**	1. If The Cutting Is Overloaded, The Machine Will Stop Feeding for 2.5 Seconds and Then Automatically Restart The Feeding. If The Cutting Is Overloaded Continually For Three Times, The Automatic Retracting Warning Light Will Flash. 2. If The Electric Current Is Overloaded, The Machine Will Stop Automatically. 3. Main Motor's Max. Current Load Can Be Set Up and Current Load's Status Can Be Displayed When the Main Motor Is Cutting			
Optional Function Cf 002	**Feeding and Collection System**	" Max. Feeding Length: 3000mm Max. Collection Length: 1500mm Roller Type Feeding Eack"			
	Feeding Length Positioning System	"Display precision: 0.10mm Max. positioning length 1500mm Display: LCD display"			

MOUNTING PRESS MACHINE

TOP TECH

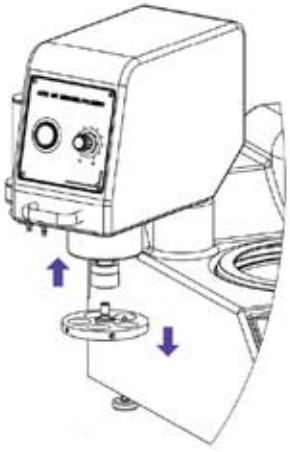
Colored LCD Touch-Screen Monitor Display

Double main shaft liquid crystal

- Economical and durable mounting press machine
- Main power supply switch and emergency stop button for easy safe control
- Electro thermal heating allows quick temperature increase
- Heating and cooling time can be adjusted according to various sample materials
- Table-top design for artistic, practical and space saving
- Automatic forming; adds pressure continually; sample cooling; easy operation to meet the massive examination requirements
- Colored LCD touch-screen monitor display; can set pressure, temperature and time
- Left and right main shafts can set different parameters individually for easy operation

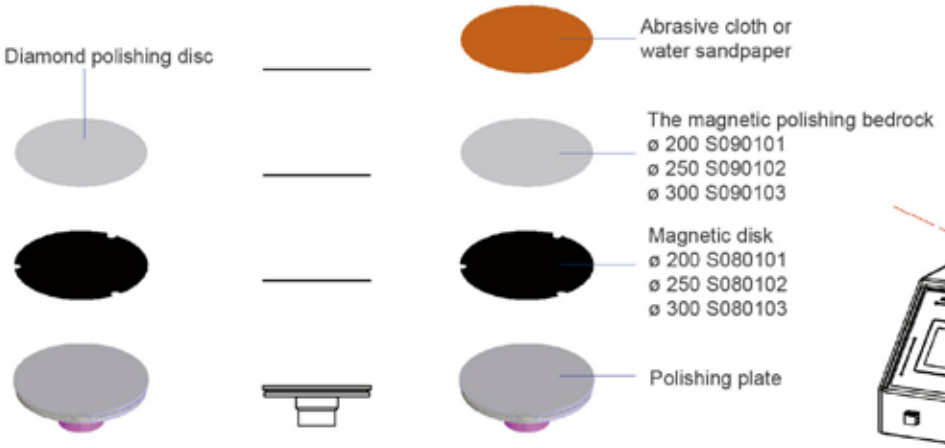
Specification						
Model	**ML25B-L2**	**ML32B-L2**	**ML40B-L2**	**ML25B-L2-E3**	**ML32B-L2-E3**	**ML40B-L2-E3**
Sample Size	Ø 25mm	Ø 32mm	Ø 40mm	Ø 25mm	Ø 32mm	Ø 40mm
Drive Method	Full-Auto Electrical Oil Hydraulic Type (Automatic Pressure Increase Continually)					
Mounting Quantity	1pc/per Time x 2			1~3pcs/per Time x 2		
Temperature Control	0~250°C					
Cooling Time Control (Min)	1~30 min					
Heating Time Control (Min)	1~60 min					
Electro Thermal	2400W			3200W		
Pressure	Max. . 200kg/cm2					
Heating Time	3600sec (60min)					
Cooling Time	900sec (15min)					
Module Setting (Memory Munction)	0~99 Set of Module Settings (Each Set Can Set Up Pressure, Heating Temperature, Heating Time and Cooling Time)					
Machine Type	Table-top					
Machine Dimensions	680 x 660 x 550(H)mm			680 x 660 x 680(H)mm		
Weight	113kg			117kg		
Cooling System	Solenoid valve automatically connects to the exterior cooling water cycle.					
Power Supply	AC220V 1Ø					
Standard Accessories	Mould Release Agent: 1 Bottle Small Hose Clip: 6Pcs Funnel: 1 Pc Water Hose 0.5m: 1pc		Mounting Resin: 1kg Water Filter: 1set Water Hose 2m: 2Pcs Connection: 2 Pcs		Resin Spoon: 1Pc Fixed Support: 1Pc Sample Clip: 1pc	
Optional Accessories	Inner Water Pump Auto Circulation		(A) Inner Water Pump Auto Circulation (B) Forming Ø30mm Module	Inner Water Pump Auto Circulation		(A) Inner Water Pump Auto Circulation (B) Forming Ø30mm Module
Special Sample Size Can Be Customized						

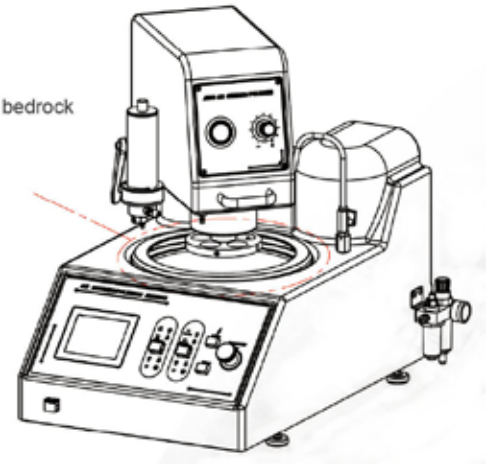
Kawan Lama #1 Commercial & Industrial Supply Company



The quick release steps for the support plate of clamping apparatus

Option
Model No: P20Z06-R1





GRINDING/POLISHING MACHINE

TOP TECH

Auto Air Pressure Grinding and Polishing Machine

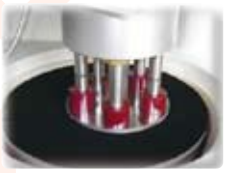
Air pressure, individual force application
Patented, automatic, fast, convenient and economical

- Auto sample clamping and auto grinding
- Air pressure sample clamping. Individual pressure applied to each sample with the same force, pressure will not be affected by different sample heights
- Air pressure can be adjusted depending on the grinding and polishing materials
- Grinding plate has low rotational speed and high torque function
- Mute sound:distance 1.5m:55 decibels or below

TA01
(Optional accessories)

Model No :
P20FRS-R3; P20FRS-R5
P25FRS-R3; P25FRS-R5
P30FRS-R5

Automatic Grinding and Polishing Procedure



Specification					
Model No.	**P20frs-R3**	**P20frs-R5**	**P25frs-R3**	**P25frs-R5**	**P30frs-R5**
No. of Grinding Plates	2				
Grinding Method	Automatic Grinding				
Grinding Plate Diameter	Ø200	Ø200	Ø250	Ø250	Ø300
Grinding Rotational Speed	0~600rpm				
Grinding Horsepower	370w				
Cooling System	2 Pieces				
Machine Type	Table-Top				
No. of Grinding Samples	3pcs	5pcs	3pcs	5pcs	5pcs
Sample Size	Ø32mm(Special Size : Ø20, Ø25, Ø30, Ø40)				
Air Pressure Settings	3~8kg/cm2				
Grinding Head Rotational Speed	80rpm Fixed				
Time Control	Liquid Crystal Display, The Grinding Time Can Be Set				
Machine Dimensions	740 X 700 X 650 (H)mm				900 X 850 X 750 (H)mm
Power Supply	AC220V 1 Ø Or AC110V 1 Ø				
Weight	93kg		98kg		130kg
Standard Accessories	Aluminium Oxide Powder 100g Water Outlet Pipe 1.5m Small Hose Clip 2pcs Water Inlet Pipe 1.5m		Water Sand Paper 2pcs O Ring 1pc Big Hose Clip 4pcs Plug 1pc		Anti-Splash Cover 2pcs Abrasive Cloth 2pcs W1 Automatic Dripping Bottle System

Mute

Low rotational speed, high torque, digital rotational speed display can select clockwise/ anticlockwise direction

- **Automatic**
- **Economica**
- **Fast**

Model No :
P20FS-1-A3-HA
P20FS-1-A5-HA
P25FS-1-A3-HA
P25FS-1-A5-HA

Model No :
P20FRS-A3-HA; P20FRS-A5-HA
P25FRS-A3-HA; P25FRS-A5-HA

High quality and ultra mute

Specification						
Model No.	**P20FS-1-A3/ A5-HA**	**P25FS-1-A3/ A5-HA**	**P30FS-1-A3/ A5-HA**	**P20FRS-A3/A5-HA**	**P25FRS-A3/ A5-HA**	**P30FRS-A3/A5-HA**
No. of Grinding Plates	1			2		
Grinding Method	Automatic Grinding					
Grinding Plate Diameter	Ø200	Ø200	Ø300	Ø200	Ø250	Ø300
Grinding Rotational Speed	0~600rpm			0~600rpm		
Grinding Horse-power	180W		250W	250W		
Cooling System	1			2		
Machine Type	Table-Top					
No. of Grinding Samples	A3: 3pcs/A5: 5pcs					
Sample Size	Ø32mm (Optional Special Size: Ø20, Ø25, Ø30, Ø40)					
Air Pressure Settings	0 ~ 5kg					
Grinding Head Rotational Speed	60rpm					
Time Control	Liquid Crystal Display, the Grinding Time can Be Set					
Machine Dimensions	740 x 440 x 540 (H)mm		900 x 520 x 750 (H)mm	740 x 700 x 630 (H)mm		900 x 850 x 750 (H) mm
Power Supply	AC220V 1Ø or AC110V 1Ø			AC220V 1Ø or AC110V 1Ø		
Weight	52kg	54kg	74kg	70kg	75kg	115kg
Standard Accessories	Aluminium Oxide Powder 100g Abrasive Cloth 1pc Water Sandpaper 1pc O Ring 1pc Water Inlet Pipe 1.5m Anti-Splash Cover 1 pc Small Hose Clip 2 pcs Big Hose Clip 4 pcs Water Outlet Pipe 1.5m			Aluminium Oxide Powder 100g Abrasive Cloth 2pcs Water Sandpaper 2 pcs O Ring 1pc Water Inlet Pipe 1.5m Anti-Splash Cover 2 pcs Small Hose Clip 2 pcs Big Hose Clip 4 pcs Water Outlet Pipe 1.5m		

GRINDING/POLISHING MACHINE

TOP TECH

Mute

Low rotational speed, high torque, digital rotational speed display can select clockwise/ anticlockwise direction

- **Patended**
- **Fixed size**
- **Can select clockwise/ unticlockwise direction**

Model No :
P20FS-1-C3-HA
P25FS-1-C3-HA

Model No :
P20FRS-C3-HA
P25FRS-C3-HA

High quality and ultra mute

Specification						
Model No.	**P20FS-1-C3-HA**	**P25FS-1-C3-HA**	**P30FS-1-C3-HA**	**P20FRS-C3-HA**	**P25FRS-C3-HA**	**P30FRS-C3-HA**
No. of Grinding Plates	1			2		
Grinding Method	Automatic grinding					
Grinding Plate Diameter	Ø200	Ø250	Ø300	Ø200	Ø250	Ø300
Grinding Rotational Speed	0~600rpm			0~600rpm		
Grinding Horsepower	180W		250W	250W		
Cooling System	1			2		
Machine Type	Table-top					
No. of Grinding Samples	3 pcs					
Grinding Sample Size	Ø15~Ø32 or Ø20~Ø40 (special size or shape can be optional)					
Grinding Sample Pressure	4 ~ 5kg2					
Grinding Head Rotational Speed	60 rpm					
Time Control	Liquid Crystal Display, The Grinding Time Can Be Set					
Machine Dimensions	740 x 440 x 580 (H)mm		900 x 520 x 750 (H)mm	740 x 700 x 630 (H)mm		900 x 850 x 750 (H)mm
Adjustment Type	Integration adjustment: Inching adjustment					
Grinding/Polishing Size	Grinding length set up Max. . 4mm					
Accurancy Adjustment	0.01mm					
Power Supply	AC220V 1Ø or AC110V 1Ø					
Weight	52kg	54kg	74kg	73kg	78kg	115kg
Standard Accessories	Aluminium Oxide Powder 100g Abrasive Cloth 1pc Water Sandpaper 1pc O Ring 1pc Water Outlet Pipe 1.5m Water Inlet Pipe 1.5m Anti-Splash Cover 1pc Small Hose Clip 2pcs Big Hose Clip 4 pcs W1 Automatic Water Dripping Bottle			Aluminium Oxide Powder 100g Abrasive Cloth 1pc Water Sandpaper 1pc O Ring 1pc Water Outlet Pipe 1.5m Water Inlet Pipe 1.5m Anti-Splash Cover 1pc Small Hose Clip 2pcs Big Hose Clip 4pcs W1 Automatic Water Dripping Bottle		

Kawan Lama #1 Commercial & Industrial Supply Company

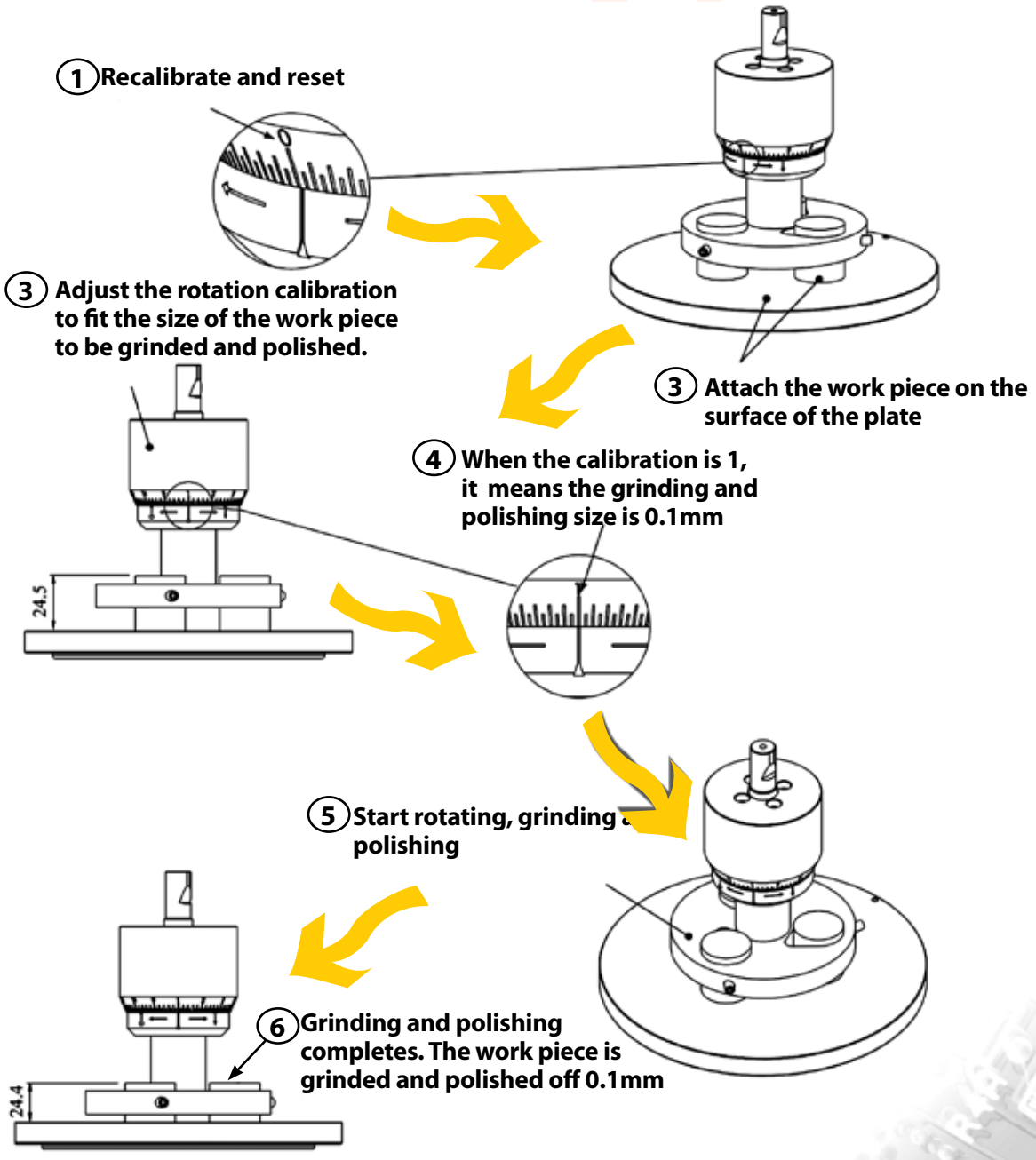
GRINDING POLISHING

Grinding/Polishing Machine

Features:

- Accurate turning balance that is not shifting even by force
- Stable body design that does not shake while in use
- Double water proof covers design for safe and simple grinding and polishing. The work piece does not fall off easily
- Spindle of leak - proof design for smooth operation
- Replaceable grinding and polishing plates that can be replaced quickly
- Cooling spray whose positioning can be freely adjusted
- Special O-ring rubber design to stabilize sand paper and polishing cloth free of hand injuries caused by flying press covers
- The test piece is fixed while the machine rotates for fast and even grinding and polishing
- Noise level: below 55 decibels within 1.5m from the machine
- Over - current protection: The current output automatically cuts down in case of over - current to protect the motor
- Grinding and polishing size programmable

<<Quality, Speed, Innovation>>


1 Recalibrate and reset
3 Adjust the rotation calibration to fit the size of the work piece to be grinded and polished.
3 Attach the work piece on the surface of the plate
4 When the calibration is 1, it means the grinding and polishing size is 0.1mm
24.5
5 Start rotating, grinding a polishing
6 Grinding and polishing completes. The work piece is grinded and polished off 0.1mm
24.4

Reset → Set the size → Grind → OK

Continue to the next page

Grinding/Polishing Machine

Mute

Low rotational speed, high torque, digital rotational speed display can select clockwise/ anticlockwise direction

Model No :
P20F-1-HA; P25F-1-HA

Model No :
P20FR-HA; P25FR-HA

High quality and ultra mute

Features :

- Precision rotational mechanism; does not shake or swing with too much pressure
- Stable body design to prevent machine from shaking while in use
- Double water proof covers design for safe and simple grinding and polishing. The work pieces do not fall off easily
- Main shaft with leak-proof design for smooth operation
- Replaceable grinding and polishing plates that can be replaced quickly
- Cooling water spray pipe, its position can be adjusted
- Special rubber O-ring design to fix sandpaper and polishing cloth that protecs hands from injuring in case the pressure cover flies off
- The sample is fixed to rotate, fast grinding surface is even
- Noise level: below 55 decibels (close to machine for 1.5m)
- When the current is overloaded, current output will be reduced automatically to protect motor

Specification						
Model No.	**P20F-1-HA**	**P25F-1-HA**	**P30F-1-HA**	**P20FR-HA**	**P25FR-HA**	**P30FR-HA**
No. of Grinding Plates	1			2		
Grinding Method	Manual			Manual		
Grinding Plate Diameter	Ø200	Ø250	Ø300	Ø200	Ø250	Ø300
Grinding Rotational Speed	0~600rpm			0~600rpm		
Grinding Horsepower	180W		250W	250W		
Cooling System	1			2		
Machine Type	Table-Top			Table-Top		
Machine Dimensions	740 x 440 x 400 (H)mm		900 x 520 x 460 (H)mm	740 x 440 x 400 (H)mm		900 x 850 x 460 (H)mm
Power Supply	AC220V 1 Ø or AC110V 1 Ø			AC220V 1 Ø or AC110V 1 Ø		
Weight	28 kg	30kg	59kg	45kg	50kg	90kg
Standard Accessories	Aluminium Oxide Powder 100g Abrasive Cloth 1pc Water Sandpaper 1pc O Ring 1pc Water Inlet Pipe 1.5m Anti-Splash Cover 1pc Small Hose Clip 2pcs Big Hose Clip 4pcs Water Outlet Pipe 1.5m			Aluminium Oxide Powder 100g Abrasive Cloth pc Water Sandpaper 2pc O Ring 1pc Water Inlet Pipe 1.5m Anti-Splash Cover 2pcs Small Hose Clip 2pcs Big Hose Clip 4pcs Water Outlet Pipe 1.5m		

Manual Grinding Head

Simple Manual Grinding Head for Easy Operation

Model No : P20F-1-M1
P25F-1-M1

M3

Model No : P20FR-M1
P25FR-M1

Specification								
Model No.	**P20F-1-M1**	**P20F-1-M3**	**P25F-1-M1**	**P25F-1-M3**	**P20FR-M1**	**P20FR-M3**	**P25FR-M1**	**P20FR-M3**
No. of Grinding Plates	1				2			
Grinding Method	Automatic Grinding							
Grinding Plate Diameter	Ø200		Ø250		Ø200		Ø250	
Grinding Rotational Speed	0~600rpm				0~600rpm			
Grinding Horsepower	180W				250W			
Cooling System	1				2			
Machine Type	Table-Top							
No. of Grinding Samples	1pcs	3pcs	1pcs	3pcs	1pcs	3pcs	1pcs	3pcs
Grinding Sample Size	Ø32mm (special size: Ø20, Ø25, Ø30, Ø40:optional)							
Grinding Sample Pressure	0 ~ 5kg							
Grinding Head Rotation	Manual Rotation							
Machine Dimensions	740 x 440 x 500 (H)mm				740 x 700 x 630 (H)mm			
Power Supply	AC220V 1Ø or AC110V 1Ø							
Weight	41kg		43kg		58kg		63kg	
Standard Accessories	Aluminium Oxide Powder 100g Abrasive Cloth 1pc Water Sandpaper 1pc O Ring 1pc Water Outlet Pipe 1.5m Water Inlet Pipe 1.5m Anti-Splash Cover 1pc Small Hose Clip 2pcs Big Hose Clip 2pcs				Aluminium Oxide Powder 100g Abrasive Cloth 2pcs Water Sandpaper 2pcs O Ring 1pc Water Outlet Pipe 1.5m Water Inlet Pipe 1.5m Anti-Splash Cover 1pcs Small Hose Clip 2pcs Big Hose Clip 2pcs			

ABK-1

Mitutoyo

Hydraulic Brinell Hardness Testing Machine

Economical Use of Brinell Hardness Tester

ID03/0077

Certificate

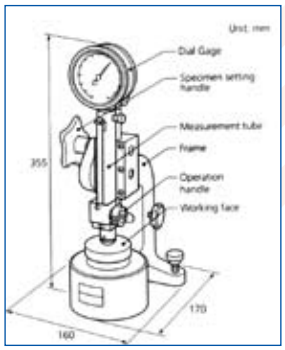
Benefits :
- High Accuracy
- High Precision

Feature :
ABK-1 is a hydraulic Brinell hardness testing machine that is simple to operate and has high precision. This machine is suitable for hardness testing of raw materials, cast/forged components, and special steels.
The mount table up/down handle uses a thrust bearing, providing smooth up/down operation.
A large impression can create a smooth surface even when measuring on rough surfaces. Weight are divided so that a test force from 4923N (500kgf) to 29420N (3000kgf) can be applied. Two sizes of steel indenters, 10mm and 5mm, can be used according to the specimen

Specification	
Model	ABK-1
Test Force	4903, 7355, 9807, 14710, 19614, 24517, 29420N
Test Force Conversion	Manual Method
Test Force Control	Manual (Load,Duration, Unload)
Test Force Duration Time	Manual (Arbitrary)
Specimen Dimension	
Max. Imum Height (mm)	200
Max. Imum Depth (mm)	155
Dimensions (WxDxH) (mm)	430 x 510 x 1100
Mass (kg)	180
Test Force Range (N)	4903 – 29420

ASH

Shore Hardness Testing Machine



Benefits :
- High Accuracy
- High Precision

Feature :
The Shore hardness testing machine is designed for easy hardness measurement where test machine and test method must be in compliance with the JIS standard. It is suitable for hardness testing of large, heavy and difficult to move items such as rolls and for hardness measurement of final finish surfaces. It has compact body that is easy to move. By removing the measurement tube, it can be used to directly measure the hardness of the specimen. Easy to operate, allowing quick measurement. The depth of indentation so that it can be used for product inspection. A wide range of measurement is available from small specimens to large specimens, with more applications possible by using special accessories such as the swing arm or roll testing stand.

Specificaton		
Model	ASH-D0	ASH-D1
Measurement Target	General	Roll
Standard	JIS D 7727	JIS D 7727
Dial Range/Graduation	0 – 140HS / 1HS	0 – 140HS / 1HS
Tolerance (Mean Value)	±1.5 (35 to 95HS)	±1.0 (30 to 100HS)
Tolerance (Dispersion)	1.5 (less than 75HS) 2.0 (75HS or more)	1.5 (30 to 100HS)
Specimen Max. Height (mm)	70	70
Specimen Max. Depth	45mm (From the Center of The Indenter Axis)	45mm (From the Center of The Indenter Axis)
Dimensions (WxDxH) (mm)	160x170x355	160x170x355
Mass (kg)	16	16

Optional Accessories

19BAA204 : Swing arm
Used for the measuring of lare components over 100mm that canot be measured by the main unit framw. It can be used easily by removing the measurement tube from the frame and installing it on the tip of the arm instead.

19BAA203 : Hammer drawing tool
used to remove the diamond hammer from the measurement tube.

19BAA202 : Diamond hammner
Spares are provided as options in the event of accindental breakage

19BAA205 : Roll testing stand
useful for measuring surface hardness of rolls over 100mm and other large workpieces that cannot be measured by removing the frame. Can be used easily by removing the measurement tube from the main unit frame and installing instead

Kawan Lama #1 Commercial & Industrial Supply Company

HR-210MR

Rockwell/Rockwell Superficial Hardness Testing Machine

Economical Dial Type Rockwell Hardness Tester

Rockwell hardness tester

Manually put on weight change (with all test force selected) and the handling of preliminary test force. It is the motor drive that loads sequence of all the test force.

Features :

- The newly designed frame, with elevating screw, does not stick out in the lower part of the amin body. A flat table can be used to place the frame for the test equipment
- Simplicity operation
- With analogue type (HR-110MR, HR-210MR), the gauge presseting operation is unnecessary by the adoption of an automatic presseting dial gauge

Specificaton	
Model	HR-210MR
Applicable Model	Rockwell Hardness
Standard	JIS B 7726 ISO6508-2 ASTM E18
Display	Analog
Minimum Reading	0.5HR Graduation
Preliminary Test Force (Handling Support)	Automatic Pre-Setting Dial Gauge
Test Force Setting	Weight Change
Load Control	Electromotion (Motor Drive) Button Start
Load Duration	Fixed 3-5.5s or Manual
Max. Specimen Height	180mm (100mm: The Case of Cover Attaching)
Max. Specimen Depth	165mm (From Indenter Axis Test Equipment Body)
Function	-
Data Output	-
Power Supply	AC100-2401.2A (Adapter DC12V3.5A
Dimensions	Approximately 235 (W) x 512 (D) x 780 (H)mm
Mass	Approximately 47kg

HR-320MS

Rockwell/Rockwell Superficial Hardness Testing Machine

Economical Rockwell Brinell Hardness Tester

Twin type (rockwell/rockwell superficial combined use) hardness test equipment

Manually handles test force and preliminary test force of the weight change. Motor drive loads sequence of all the test force.

Feature :

The digital type (HR-320MS, HR-430MR and HR 430MS) has digimatic output, digital processors and digital equipment, as well as our digimatic mini-processors (DP-1VR) to print and input tools (USB-ITN-E) to connect to PC and use for data transfer.

Specificaton	
Model	HR-320MS
Applicable Model	Rockwell Hardness
	Rockwell Superficial Hardness
Standard	JIS B 7726 ISO6508-2 ASTM E18
Display	Digital
Minimum Reading	0.1HR Indication
Preliminary Test Force (Handling Support)	Loading Navigator Indication
Test Force Setting	Weight Change
Load Control	Electromotion (Motor Drive) Button Start
Load Duration	Fixed 3-5.5s or Manual
Max. Specimen Height	180mm (100mm: The Case of Cover Attaching)
Max. Specimen Depth	165mm (From Indenter Axis Test Equipment Body)
Function	Success or Failure Decision Function
	Offset Revision Function
	Hardness Conversion Function
Data Output	SPC RS-232C
Power Supply	AC100-2401.2A (Adapter DC12V3.5A
Dimensions	Approximately 235 (W) x 516 (D) x 780 (H)mm
Mass	Approximately 47kg

ARK-600

Rockwell/Rockwell Superficial Hardness Testing Machine

Rockwell/ Rockwell Superficial test in one Machine

Twin type (rockwell/rockwell superficial combined use) hardness test equipment

Economy type, but support dial switching power steering and support of all test standard and equipped with automatic brake handle auto start feature. motor drive loads sequence of all the test force.

Features :

- The digital type (HR-430 abd HR-430MS), with the adoption of the automatic steering whell brake and the automatic load sequence, with only simple handling testpossibility
- The digital type (HR-320MS, HR-430MR and HR 430MS) has digimatic output, digital processors and digital equipment, as well as our digimatic mini-processors (DP-1VR) to print and input tools (USB-ITN-E) to connect to PC and use for data transfer

Specificaton	
Model	HR-430MS
Applicable Model	Rockwell Hardness
	Rockwell Superficial Hardness
Standard	Jis B 7726 Iso6508-2 Astm E18
Display	Digital
Minimum Reading	0.1hr Indication
Preliminary Test Force (Handling Support)	Automatic Steering Wheel Brake
Test Force Setting	Dial Knob Switching
Load Control	Electromotion (Motor Drive) Automatic Operation Start
Load Duration	Fixed 3-60s Setting Possibility and Manual Operation Possibility
Max. Specimen Height	180mm (100mm: The Case Of Cover Attaching)
Max. . Specimen Depth	165mm (From Indenter Axis Test Equipment Body)
Function	Success or Failure Decision Function
	Offset Revision Function
	Hardness Conversion Function
Data Output	Spc Rs-232c
Power Supply	Ac100-2401.2a (Adapter Dc12v3.5a
Dimension	Approximately 235 (W) X 516 (D) X 780 (H)Mm
Mass	Approximately 50kg

AVK-CO/HV-112/HV-113/ HV-114/HV-115

Mitutoyo

Vickers Hardness Testing Machine

HV-112, HV-114

HV-113, HV-115

AVK-C0

Continue to the next page

Kawan Lama #1 Commercial & Industrial Supply Company

Vickers Hardness Testing Machine

Feature :

A wide range of test force from 1.961N to 490.3N* is available for measuring a various type of specimens. The load duration can be set 1sec increments between 5 and 99sec. The minimum reading of indentation is 0.1µm. It allows small indentations to be measured with high precision.

Benefits :

- High Accuracy
- High Precision

810-155 : AVK-HF

Vickers hardness testing at-high temperatures

Functional: Control unit

- Back - lit LCD graphic display for Identaionsize (D1 and D2), Hardness value and scale
  Number of measurement point Test conditions (HV / HK indenter type, test force, load duration)
  GO / ±NG tolerance judgment, Cylindrical and spherical surface compensation ffset
- Remote control of power turret
- Conversion to other hardness scales
- Statistical processing

User friendly Vickness Hardness Testing Machine

Specification	
Model	AVK-CO/HV-112/HV-113/HV-114/ HV-115
Test Force Range	
Test Force Setting	By Dial
Loading Accuracy	±1%
Load Control	Automatic (Loading, Duration, Unloading)
Load Duration	5s – 99s (1s Increments) (5s, 10s, 15s, 20s, 30s : AVK-CO)
Max. Specimen Height (Mm)	210 (205: AVK-CO)
Max. Specimen Depth (mm)	170 (165: AVK-CO) (from the center of indenter shaft)
Indenter/Objective Turret	Manual
No. Of Indenter Mount	1-Mount
No. Of Objective Mount	2-mount (1-Mount: AVK-CO)
Optical Path*	Split In Two Ways For Video Monitor and Photograph (Single Way: AVK-CO)
Minimum Reading (mm)	0.1 (1: AVK-CO)
Control Unit*	Touch Screen Type
Data Output*	RS-232C, Digimatic code (SPC) and Centronics
Power Supply	100/120/220/240V AC, 50/60Hz
Dimensions (W X D X H)	
Main Unit (mm)	245 x 515 x 770
Control Unit* (mm)	165 x 260 x 105
Mass (Main Unit) (kg)	50 (45: AVK-CO)

Specification					
Model	AVK-CO	HV-112	HV-113	HV-114	HV-115
Test Force Range					
Test Force Range	9.807, 49.03, 98.07, 196.1, 294.2, 490.3N	1.961, 2.942, 4.903, 9.807, 24.51, 49.03, 98.07, 196.1N	1.961, 2.942, 4.903, 9.807, 24.51, 49.03, 98.07, 196.1N	9.807, 19.61, 29.42, 49.03, 98.07, 196.1, 294.2, 490.3N	9.807, 19.61, 29.42, 49.03, 98.07, 196.1, 294.2, 490.3N
Test Force Setting	By Dial	By Dial	By Dial	By Dial	By Dial
Control Unit	-	Touch Screen Type	Touch Screen Type	Touch Screen Type	Touch Screen Type
Video Monitor	-	-	9" B/W	-	9" B/W
Indenter/Objective Turret	Manual Operation	Motor Driven	Motor Driven	Motor Driven	Motor Driven
No. of Indenter Mount	1	1	1	1	1
No. of Objective Mount	1 (Measurement)	2 (Measurement)	2 (Measurement)	2 (Measurement)	2 (Measurement)

HARDMATIC HH-300

Mitutoyo

Durometers for Rubber and Plastics Hardness Testing

Feature :

Digital/dial durometers are suitable for testing the nature of the following materials - natural rubber, neoprene, polyesters, P.V.C., leather, Thiokol, nitrite rubber, wax, vinyl, cellulose acetates, glass polystyrene, etc.

Benefits :

- High Accuracy
- High Precision

Optional Accessories

Testing stand application

811-336 811-335

811-332-01 811-331-01

811-332 811-331

Specification						
Model (Digital/Dial)	**HH-336/ HH-335**	**HH-336-01/ HH-335-01**	**HH-332/ HH-331**	**HH-338/ HH-337**	**HH-338-01/ HH-337-01**	**HH-334/ HH-333**
Order No. Digital/Dial	**811-336/811-335**	**811-336-01/811-335-01**	**811-332/811-331**	**811-338/811-337**	**811-338-01/811-337-01**	**811-334/811-333**
Technical Data	* Designed In Accordance With The Astm D 2240, ISO 868,Iso 7619, Din 53 505, Jis K 6253, and Jis K 7215 * Units are Available In Both Shore A and Shore D Scales, and Will Test a Wide Variety of Applications. Shore D Scales, and Will Test A Wide Variety Of Applications. * The Digital Durometer Is Provided With Data Hold Function, Permitting The Operator to Make an Error-Free Reading on The LCD Screen. * The Digital Durometer Is Provided with a Peak Retaining Hand for Error-Free-Reading					
Scale	Shore A	Shore A	Shore A	Shore D	Shore D	Shore D
Application	Natural Rubber, Soft Elastomers, etc.			Hard Elastomers, Plastics, Hard Rubber, Ebonite, etc.		
Resolution	0.5 (digital) or 1 (dial)					
Range	HA: 10 – 90	HA: 10 – 90	HA: 10 – 90	HD: 20 – 90	HD: 20 – 90	HD: 20 – 90
Standard						
Astm D 2240	√	√	√	√	√	√
Iso 868	√	√	√	√	√	√
Iso 7619	√	√	√	√	√	√
Din 53 505	-	√	√	-	√	√
Jis K 6253	√	√	√	√	√	√
Jis K 7215	√	√	√	√	√	√
Pressure Foot (mm)	44 x18	Ø18	Ø18	44 x18	Ø18	Ø18
Spring Force (mn)	550+75H (H:Reading 10-90)			444.5H+75H (H:Reading 20-90)		
Indenter	Blunt Taper (Tip Diameter: 0.79mm)			Sharp Point (Tip Curvature: 0.1±0.01mm)		
Tip Angle	35°±0.25°	35°±0.25°	35°±0.25°	30°±0.5°	30°±0.5°	30°±0.5°
Indenter Diameter (mm)	1.25	1.25	1.25	1.25	1.25	1.25
Indenter Protrusion (mm)	2.5	2.5	2.5	2.5	2.5	2.5
Function	Digital: Data Hold, Zero-Setting, Spc Output, Power an/off (Power Supply: Sr44 X 1pc.) Analog Durometer: Peak Retaining Hand)					
Type	Compact	Long-leg	Long-leg	Compact	Compact	Long-leg
Dimensions (WxDxH)						
Digital (mm)	60x28.5x151	60x28.5x151	60x28.5x193	60x28.5x151	60x28.5x151	60x28.5x193
Dial (mm)	56x33.5x144	56x33.5x144	56x33.5x186	56x33.5x144	56x33.5x144	56x33.5x186
Mass.						
Digital (Gr)	290	290	310	290	290	310
Dial (Gr)	300	300	320	300	300	320

Kawan Lama #1 Commercial & Industrial Supply Company

Impact Type Hardness Testing Unit

Feature :
HH-411 is a rebound type portable hardness tester for metal with a compact body and high operability. It allows anyone to perform hardness testing easily at the touch of a key, so it can be used widely on various components in the field.

Benefits :
- High accuracy
- High precision

Rich variety of detectors available
In addition to the general-purpose detector (D-type) suplied as standard equipment, the detector lineup includes rich variations (sold separately) to support special aplications.

Equiped with a data save function
Up to 1800 hardness test result can be save, which is useful for patrol tests in the field.

Equiped with a automatic orientation correction
For the rebound type hardness tester, gravity affects the measurement result deoending on the orientation of the detector relative to the vertical when pressed against the specimen surface. The HH-411 is equipped with the latestmeasurementtechnology that automatically detects the orientation of the detector to automatically correct for this effect, so Max. imum accuracy is always achieved.

Great operability
The basic operation is to press the detector against the sample surface and push the detector button by your finger just like clicking a ballpoint pen, so it is easy for anyone to do.

810-288
Use for inner wals of cylinders. the grip is short to allow easy possitioning within a cylinder.

Hardness testing of small surface is possible
Only a small surface (standard D type : Ø22mm, separately sold DL type : Ø4mm) area on is required for hardness testing. Therefore the HH-411 can be used for testing of various specimen shapes such as around grooves and gear teeth.

Hardness scale can be selected for your own individual purpose
Based on the hardness HL value (L value : according to ASTM A 956), conversion can be performed to Vickers, brinel, Rockwell C, Rockwell B and shore hardness as well as tensile strength. Conversion can be performed after the test, or hardness value display in the conversion mode is also available.

Impactors (Optional accessories)

Various impactors can be connected to the display unit.

810-290
Use for gear teeth, welded corners, etc.

810-289
Use for concave workpieces such as gear teeth, ball bearing races, etc.

810-298 : ASTM standard
810-299-02 : JIS standard

Including the display unit, D type impactor (**810-287**) and carbide ball (**19BAA457**)

Specification	
Impactor	Impact Hammer With Integrated Detector and Carbide-Ball Tip
	(D-Type: Conforming to Astm a 956)
Display Unit	7-segment LCD
Display Range*/Resolution	
Leeb	1-999HL / 1HL
Vickers	43-950HV / 1HV
Brinell	20-894HB / 1HB
Rockwell C	19.3-68.2HRC / 0.1HRC
Rockwell B	13.5-101.7HRB / 0.1HRB
Shore	13.2-99.3HS / 0.1HS
Tensile Strength	499-1996MPa / 1MPa
***Display Range Depends on Conversion Table.**	
Function	Auto Angle Compensation, Offset, Ok/Ng Judgment, Hardness Scale Conversion
	Data Storage (1800 Data Entries)
	Statistical Analysis (Average, Max. Imum, Minimum, Dispersion)
	Auto Sleep Function
	Impact Counter Display Function
Testable Workpiece	
Thickness	Minimum 5mm or More
Mass	5kg or more in Mass
Test Point	5mm or More from the Edge of The Sample, 3mm or More to Each of The Tested Points.
Surface Roughness	Ra 2µm or better
Output	RS-232C, SPC
Power Supply	Alkaline AA battery 2pcs or optional
	AC adapter (battery life: 70 hours)
Size/Mass	
Display Unit	70x110x35mm, 200gr
Impactor	ø28x175mm, 120gr

HM-101

Mitutoyo

Micro-Vickers Hardness Testing Machine

HM-102
Economical
Digital type

HM-112 Digital display of measurement result and a statistical calculation function.

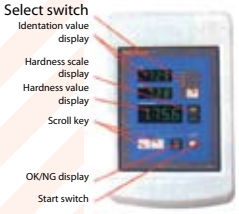
HM-101
Economical
manual type

HM-103
The TV monitor removes fatigue in visual measurement, reducing detecting errors.

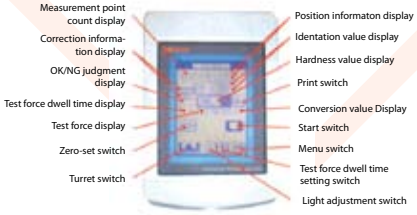
HM-113
Reduce individual differences in visual measurement with the TV monitor. The statistical calculation function reduces operation time.

Feature :
A wide range of test force from 4.903x10-3N to 19.61N is available for measuring a various type of specimens. The load duration can be set in 1sec increments between 5 and 99sec*. The minimum reading of indentations is 0.01µm*. It allows small indentations to be measured with high precision.

Durable sheet switch type



Touch screen type



Specification					
Model	**HM-101**	**HM-102**	**HM-103**	**HM-112**	**HM-113**
Loading Accuracy	1% (Forces Less Than 1gf Are Ignored)				
Load Control	Automatic (Loading, Duration, Unloading)				
Load Duration	5 – 30 sec: HM-101				
	5 – 60 sec: HM-102, HM-103				
	5 – 99 sec: HM-112, HM-113				
Xy Stage					
Stage Size (mm)	100 x 100	100 x 100	100 x 100	100 x 100	100 x 100
Travel Range	25 x 25mm, with micrometer heads				
Resolution XY Stage	0.01mm: HM-101, HM-102, HM-103				
	0.001mm: HM-112, HM-113				
Max. Specimen Height (km)	95	95	95	95	95
Max. Specimen Depth	150mm (From the Center of Indenter)				
Indenter/Objective Turret	Manual Type	Manual Type	Manual Type	Manual Type	Manual Type
No. of Indenter Mount	1-Mount	1-Mount	1-Mount	1-Mount	1-Mount
No. of Objective Mount	2-Mount (10x, 50x)	2-Mount (10x, 50x)	2-Mount (10x, 50x)	2-Mount (10x, 50x)	2-Mount (10x, 50x)
Optical Path	2-Way (Measurement / Exposure)				
Resolution Optical Path	0.1µm (0.2µm: HM-101)				
Data Output	RS-232C, Digimatic code (SPC) and Centronics				
Power Supply	100/120/220/240V AC, 50/60Hz				
Dimensions (W x D x H)					
Main Unit (mm)	410 x 600 x 590	410 x 600 x 590	410 x 600 x 590	410 x 600 x 590	410 x 600 x 590
Control Unit (mm)	165 x 260 x 105	165 x 260 x 105	165 x 260 x 105	165 x 260 x 105	165 x 260 x 105
Mass (Main Unit) (kg)	42	42	42	42	42
Test Force Range	98.07, 245.2, 490.3, 980.7, 1961, 2942, 4903, 9807mN				
Test Force Setting	By dial	By dial	By dial	By dial	By dial
Control Unit	-	Durable Sheet Switch Type	Durable Sheet Switch Type	Touch Screen Type	Touch Screen Type
Video Monitor	-	-	9" B/W	-	9" B/W
Indenter/Objective Turret	Manual Type	Manual Type	Manual Type	Manual Type	Manual Type
No. of Indenter Mount	1	1	1	1	1
No. of Objective Mount	1 (Observation)	2 (Measurement)	2 (Measurement)	2 (Measurement)	2 (Measurement)
	1 (Measurement)				

Kawan Lama #1 Commercial & Industrial Supply Company

Micro-Vickers Hardness Testing Machine

Power turret 2 indenter mounts and 4 objective mounts
(manual operation possible)

Touch switch type control panel

Benefits :

- High Accuracy
- High Precision

Features :

- The latest electromagnetic force motor used in the loading mechanism has enabled the test force to be freely selected (see test force specifications over the wide range of 0.4903mN (0.05gf) to 1981mN (2kg). It is also possible to freely set the time for loading and load dwell time. Now your desire for absolute control over the indentation size in vickers hardness testing can be satisfied. The HM-200 series always offers the test force most appropriate for the specimen material and shape.
- It is possible to perform not only the Vickers hardness test but also a fracture toughness test (IF test: JIS R 1607-1995) on ceramics.
- The objectives used enable a very comfortable working distance between the objective and the specimen surface. This greatly reduces the possibility of collision between the specimen and the objective during focusing operations. (e.g. 1.1mm for 50X objective). The contrast that is most appropriate for the magnification of the objective can be obtained by manipulating the variable aperture stop in the illumination unit. This makes the indentations clearly visible, leading less variation and reducing the chance of error when measuring the diagonal lengths.

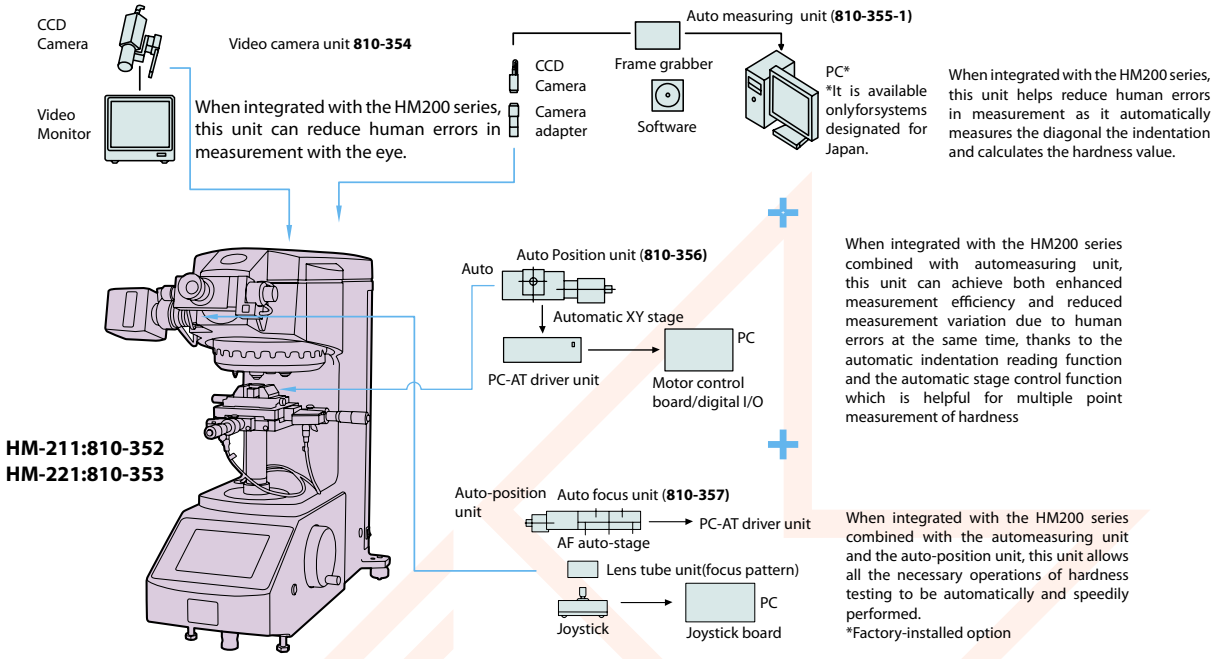
Specification		
Model	**810-352E**	**810-533E**
Test Force Range		
Hm-211 (mn)	98.07 To 980.7 (9.807 Increments)	
	980.7 To 9807 (98.07 Increments)	
Hm-221 (mn)	0.4903	0.4903
	0.9807 To 9.807 (0.989 Increments)	
	9.807 To 980.7 (9.807 Increments)	
	980.7 To 19610 (98.07 Increments)	
Test Force Generation	Electromagnetic	Electromagnetic
Load Control	Automatic (Loading, Duration, Unloading)	
Load Duration	1 – 999 Sec (1 Sec Increment)	1 – 999 Sec (1 Sec Increment)
XY Stage		
Stage Size (mm)	100 X 100	
Travel Range (mm)	25 X 25, With Micrometer Head	
Resolution XY Stage (mm)	0.001	
Max. Specimen Height (mm)	133	133
Max. Specimen Depth (mm)	160 (From The Center Of Indenter)	
Indenter/Objective Turret	Motor Driven and Manual Operation	
No. of Indenter Mount	2-Mount	2-Mount
No. of Objective Mount	4-Mount	4-Mount
Optical Path	2-Way (Measurement / Exposure)	2-Way (Measurement / Exposure)
Resolution Optical Path (mm)	0.01	0.01
Data Output	Rs-232C, Digimatic Code (Spc) and Centronics	
Power Supply	100/120/220/240V AC,50/60Hz	100/120/220/240V AC,50/60Hz
Dimensions (WxDxH) (mm)	400 X 625 X 600	400 X 625 X 600
Mass (kg)	43	43
Test Force Control	Force Generation By Electromagnetic and Automatic Control (Load, Dwell, Unload)	
Control Unit	Touch Screen Type	Touch Screen Type
Video Monitor	-	-
Indenter/Objective Turret	Motor Driven and Manual Operation	
No. of Indenter Mount	2	2
No. of Objective Mount	4 (10x and 50x are Standard Accessories)	4 (10x, 50x and 100x are Standard Accessories)

Type		**810-325**					**810-353**									
Model No.		HM-211					HM-221									
Fixed test force	**mN**	98.07	196.1	294.2	490.3	980.7	0.4903	0.9807	1.961	2.942	4.903	9.807	19.61	29.42	49.03	98.07
	gf	10	20	30	50	100	0.05	0.1	0.2	0.3	0.5	1	2	3	5	10
	mN	1961	2942	4903	9807		196.1	294.2	490.3	980.7	1961	2942	4903	9807	19610	
	gf	200	300	500	1000		20	30	50	100	200	300	500	1000	2000	

HM-211

Mitutoyo

Micro-Vickers Hardness Testing Machine


CCD Camera
Video camera unit 810-354
Video Monitor
When integrated with the HM200 series, this unit can reduce human errors in measurement with the eye.
Auto measuring unit (810-355-1)
CCD Camera
Camera adapter
Frame grabber
Software
PC*
*It is available onlyforsystems designated for Japan.
When integrated with the HM200 series, this unit helps reduce human errors in measurement as it automatically measures the diagonal the indentation and calculates the hardness value.
HM-211:810-352
HM-221:810-353
Auto
Auto Position unit (810-356)
Automatic XY stage
PC-AT driver unit
PC
Motor control board/digital I/O
When integrated with the HM200 series combined with automeasuring unit, this unit can achieve both enhanced measurement efficiency and reduced measurement variation due to human errors at the same time, thanks to the automatic indentation reading function and the automatic stage control function which is helpful for multiple point measurement of hardness
Auto-position unit
Auto focus unit (810-357)
PC-AT driver unit
AF auto-stage
Lens tube unit(focus pattern)
Joystick
PC
Joystick board
When integrated with the HM200 series combined with the automeasuring unit and the auto-position unit, this unit allows all the necessary operations of hardness testing to be automatically and speedily performed.
*Factory-installed option

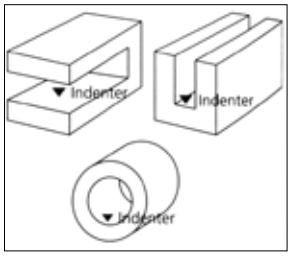
*1: When building in the video camera unit, remove the eyepiece unit of the measuring microscope (standard accessory). If the Auto-measuring unit is added, it will be exclusively used in place of the measuring microscope or video camera unit. For the exclusive use of the Auto-measuring unit or video camera unit, an optional camera power unit (Order No.19BAA360) is required. If the Auto-focus unit is added, the focus line is visible within the view field of the measuring microscope.

*2: The XY stage (digital type, standard accessory) is dismounted if the Automatic XY stage is to be used. Therefore, if the Auto-position unit is added and only the hardness tester is used, XY position data cannot be obtained.

HR-511

Rockwell Type Hardness Testing Machine

Various shapes of specimen can be measured. (Nose-type indenter axis mechanism has been adopted)
The nose-type indenter mechanism allows measurement of pipe samples as well as the top surface of a flat sample.



Feature :
Multiple test force generation for Rockwell, Rockwell Superficial and Brinell hardness. Dolphin-nose indenter arm for easy reach of interior (min. ø40mm/ø22mm*) and exterior surfaces). Real time electronic test force control for accurate loading. This perfectly eliminates load force overshooting. Indenter escape function for continuous testing at fixed table position. This eliminates instability caused by the table retraction. Auto-shop elevation table and automatic preliminary test force loading to provide stable test force generation.

Benefits :
- High Accuracy
- High Precision

Function : Control unit
Durable sheet switch type
- Durable sheet switch operation with LED display.
- Remote selection of the test force linked to the hardness scale selection.
- Powerful statistical processing and 1024 data memory.
- Data offset.
- OK / NG tolerance judgment.
- Statistical processing.

Functions : Touch screen type
- Touch screen operation with a back-lit • LCD graphic display.
- Remote selection of the test force linked to the hardness scale selction.
- Choice of massage language in English, German, French, Spanish, Italian and Japanese for user friendly operation.
- Cylindrical and spherical surface compensation.
- Data offset.
- Conversion to other hardness scales.
- Powerful statistical processing with flexible data point editing and 1024 data memory.
- Measured data editing.
- OK/±NG tolerance judgment.
- Statistical processing, histogram and X-R chart.

Kawan Lama #1 Commercial & Industrial Supply Company

HR-511

Mitutoyo

Rockwell Type Hardness Testing Machine

Specification				
Model	**HR-511**	**HR-521**	**HR-522**	**HR-523**
Load Control	Automatic (Loading, Duration, Unloading)			
Load Duration	Os – 120s (1s Increments)	OS – 120S (1S Increments)	OS – 120s (1S Increments)	OS – 120s (1S Increments)
Max. Specimen Height	205mm (For Standard Flat Anvil)			
Max. Specimen Depth	150mm (From The Center of The Indenter Shaft)			
Stage Elevation	Manual or Power Drive	Manual or Power Drive	Manual or Power Drive	Manual or Power Drive
Control Unit	Sheetswitch Type Or Touch Screen Type			
Data Output	Rs-232c, Digimatic Code (Spc) and Centronics			
Power Supply	100/120/220/240V AC, 50/60Hz			
Dimensions (W x D x H)				
Main Unit (mm)	250 x 670 x 605	250 x 670 x 605	250 x 670 x 605	250 x 670 x 605
Control Unit (mm)	165 x 260 x 105	165 x 260 x 105	165 x 260 x 105	165 x 260 x 105
Mass (kg)	65	65	65	65kg
Preliminary Test Force (N)	29.42, 98.07	29.42, 98.07	29.42, 98.07	29.42, 98.07
Test Force (N)	Rockwell Superficial: 147.1, 294.2, 441.3			
	Rockwell: 588.4, 980.7, 1471		Rockwell: 588.4, 980.7, 1471	
	Brinell: 1839	Brinell: 1839	Brinell: 61.29, 98.07, 153.2, 245.2, 294.2, 306.4, 612.9980.7, 1226, 1839	
Test Force Setting	By Control Unit	By Control Unit	By Control Unit	By Control Unit
Stage Elevation	Manual	Manual	Manual	Power Drive
Control Unit	Sheet Switch Type	Touch Screen Type	Touch Screen Type	Touch Screen Type

SONOHARD 21

Kawatetsu Advantech Co.,Ltd

Features :

- Measurement only takes a few second
- Leaves only tiny indentation on test speciment
- Hardness value can be read directly (HV, HRC, Hs, Hb)
- Convertion to breaking strength (N/mm^2)
- Measuring stands (wooden, iron, resin, etc) do not influence measurement
- 4000 point of data memory
- Portability makes it ideal for use in the field
- Easy data management using PC with data transfer software (Option)

SH 21 is an equipment for measure hardness value for the material Surface hardened components, coatings, thin walled or impact sensitive component.

Specification	
Measuring Range	Rockwell Hardness Hrc 10 – 70
	Vickers Hardness Hv 50 – 999
	Shore Hardness Hs 20,0 – 99,9
	Brinell Hardness Hb 85 – 550
Applicable Materials	With Steel As the Principle Material, Other Metalic
Data Memories (pcs)	2000
Allowable Temperature (°c)	0 - 50

Order No.	Type	Description
KE0000004	-	Sono Hard 21 (E) Complete Set

EQUOTIP 3®

proceq

Features :

- Highly accurate ± 4 HL
- Automatic correction for impact direction
- Converts to all common hardness scales (HV, HB, HRC, HRB, HS, Rm)
- Fast testing for a wide range of applications
- Large memory with on-screen review of data
- Download to PC or print directly via USB, Ethernet, or RS-232
- User profiles for fast change of all settings
- Internal rechargeable batteries or standard "C" cells
- Custom conversions for uncommon alloys

This Equipment is used to measure hardness of metal ferrous and non-ferrous.

Order No.	Type	Description
PC0000070	35310100	Equotip 3 Hardness Tester Type D

Fields of Application			D/DC	DL	S	E	G	C
1. Steel and Cast Steel	Vickers	HV	81-955	80-950	101-964	84-1211		81-1012
	Brinell	HB	81-654	81-646	101-640	83-686	90-646	81-694
	Rockwell	HRB	38-100	37-100			48-100	
		HRC	20-68	21-68	22-70	20-72		20-70
		HRA			61-88	61-88		
	Shore	HS	30-99	31-97	28-104	29-103		30-102
	Rm N/mm²	σ1	275-2194	275-2297	340-2194	283-2195	305-2194	275-2194
		σ2	616-1480	614-1485	615-1480	616-1479	618-1478	615-1479
		σ3	449-847	449-849	450-846	448-849	450-847	450-846
2. Could Work Tool Steel	Vickers	HV	80-900	80-905	104-924	82-1009		98-942
	Rockwell C	HRC	21-67	21-67	22-68	23-70		20-67
3. Stainless Steel	Vickers	HV	85-802		119-934	88-668		
	brinell	HB	85-655		105-656	87-661		
	Rockwell	HRB	46-102		70-104	49-102		
		HRC	20-62		21-64	20-64		
4. Cast Iron Lamellar Graphite Gg	Brinell	HB	90-664				93-326	
	Vickers	HV	90-698					
	Rockwell	HRC	21-59					
5. Cast Iron, Nodular Graphite Ggg	Brinell	HB	95-686				127-364	
	Vickers	HV	96-724					
	Rockwell	HRC	21-60					
6. Cast Aluminium Alloys	Brinell	HB	19-164	20-187	20-184	23-176	19-168	21-167
	Vickers	HV	22-193	21=191	22-196	22-198		
	Rockwell	HRB	24-85				24-86	23-85
7. Copper/Zinc-Alloys (Brass)	Brinell	HB	40-173					
	Rockwell	HRB	14-95					
8. Cuai/Cusn-Alloys (Bronze)	Brinell	HB	60-290					
9. Wrought Copper Alloys, Low Alloyed	brinell	HB	45-315					

Type	Part Number	Application Area	Impact Energy	Indenter
C	353 00 500	Reduced Impact Energy. for Surface-Hardened Components, Coatings, Thin or Impact-Sensitive Parts (Small Indentation).	3nmm	Tungsten Carbide 3mm
D	353 00 100	Most Widely Used Probe. for The Majority of Testing Applications.	11nmm	Tungsten Carbide 3mm
DC	353 00 110	Short Impact Device. for Applications In Restricted Spaces, E.G. In Bores, Cylinders or for Measurements In Assembled Machines.	11nmm	Tungsten Carbide 3mm
DL	353 00 120	Slim Measuring Nose. for Measurement Under Extreme Space Limitations or on the Floor of Grooves.	11nmm	Tungsten Carbide 2.8mm
E	353 00 400	Diamond Indenter. for Measurements in Extreme Hardness Ranges (Above 50 Hrc/650 Hv). Tool Steels with High Carbide Content.	11nmm	Polycrystalline Diamond 3mm
G	353 00 300	Increased Impact Energy. Solid Components, E.G. Heavy-Duty Casts and Forged Parts.	90nmm	Tungsten Carbide 5mm
S	353 00 200	Ceramic Indenter. for Measurements In Extreme Hardness Ranges (Above 50 Hrc/650 HV). Tool Steels With a High Carbide Content.	11nmm	Ceramics 3mm

EQUOSTAT 3

proceq

Equotip 3 Hardness Measuring System

This equipment is used to measure hardness of metal ferrous and non-ferrous for thin material.

Features :

- The first hardness tester that connects directly to a PC and to the portable Equotip 3 testing platform
- The user is instructed precisely when to apply and release the test loads; the displayed signal curve enables the user to judge the quality of the measurement
- Measuring clamp, magnetic feet, and special feet adapt to most sample shapes
- The included PC software package Equolink 3 addresses professional data management needs

Probe Setup	Minimum Test Piece Thickness	Max. Imum Test Piece Thickness	Test Piece Surface Condition	Surface Curvature	Max. Test Piece Hardness	Minimum Spacing
50 N Probe with Clamp	1mm At ~20 Hb 130mm At ~70 Hrc	41mm	Recommended Mean Surface Roughness Ra < 2mm to Minimize Data Scatter		70hrc	Three Times The Diameter of a Test Indentation
50 N Probe with Round Standard Foot (Ø = 42 mm)		N/A		Foot To Be Used for Plane Surfaces		
50 N Probe with Tripod				Very Small Curva-tures Acceptable		
50 N Probe with Long Foot				Very Small Curva-tures Acceptable	Recommended < 60hrc	
50 N Probe with Special Feet				18 - 70mm Radius of Curvature or 70mm - ∞	70hrc	

Equostat 3 Probe	
Measuring Range	19-70 HRC; 19-70 HMMRC; 67-638 HB; 35-950 HV; 60-86 HRA; 29-107 HRB; 225-2250 MPa; 69-94 HR15N; 88-96 HR15T
Resolution	0.1 µm; 0.1 HRA; 0.1 HRB; 0.1 HRC; 0.1 HRE; 0.1 HRH; 0.1 HR15N; 0.1 HR15T; 1 HB; 1 HV; 0.1 HS; 1 MPa
Measuring Accuracy	~ ± 1.5 HRC Over Entire Range
Max. Imum Test Hardness	70 HRC
Test Direction	Any Direction (No Correction Required)
Test Loads	10 N / 50 N (probe 50 N)
Diamond Indenter	angle 100.0° ± 0.5°

EQUOTIP PICCOLO 2®

Features :

- Good for all materials
- Ideal for production level testing
- Best suited for on-site testing of heavy, big or already installed parts
- Handy for difficult to access or confined test locations
- Automatic sensing and compensation for impact direction
- Excellent for material selection and acceptance tests
- Easy to use and accurate on curved test surfaces (R > 10 mm/0.4 inches)

This Equipment is used to measure hardness of metal ferrous and non-ferrous without statistic.

With Impact Device D	With Impact device DL	
Measuring Range	150-950 HLD	250-970 HLDL
Instrument Dimensions	147.5 x 44 x 20mm (5.71 x 1.75 x 0.79 inches)	203 x 44 x 20mm (7.99 x 1.75 x 0.79 inches)
Instrument Weight	142g (5 ounces)	152g (5.4 ounces)
	General Specifications (Applicable to Both Equotip Piccolo 2 and Equotip Bambino 2)	
Conversions	80-955 HV, 81-678 HB, 20-70 HRC, 38-102 HRB, 30-100 HS (Equotip Piccolo 2 only: 274-2193 N/mm2)	
Resolution	1 HLD/HLDL, 1 HV, 1 HB; 0.1 HRC, 0.1 HRB,0.1 HS (Equotip Piccolo 2 only: 1 N/mm2 Rm)	
Measuring Accuracy	± 4 HLD/HLDL (0.5% at 800 HLD/HLDL)	
Max. Imum Test Hardness	890 HLD (955 HV, 68 HRC)	
Impact Direction / Energy	Automatic compensation/11Nmm	
Ball Indenter	Tungsten carbide (approx. 1'500 HV), 3mm (0.12 inches) diameter	
Housing	Scratch-Proof, Hard-Coated Zinc Alloy	
Battery	Rechargeable Li Ion, Operation Period Over 20'000 Impacts, Charging Current 100 Ma	
Integrated Memory	Non-volatile, RAM 32 kBytes, ~ 2'000 Measured Values (Equotip Piccolo 2 only)	
Operating Conditions	Temperature: -10 to +60 °C (14 to 140 °F), Humidity: 90% Max.	

Order No.	Type	Description
PC0000088	**35210002**	Equotip Piccolo 2 Unit D with Test Block D

HARDNESS TESTER

KRISBOW

Digital Port Hardness Tester

Features:
- Wide measuring range, for all metallic materials
- Direct display of hardness scales HRB, HRC, HV, HB, HS, HL
- Conversion to tensile strength (U.T.S)
- Test at any angle even upside down
- Removable printed included
- Large LCD display showing all function and parameters
- Battery low indication
- Power charging indication on the keyboard LED
- Fault distinguished in details (E1-E5)

Order No.	Type	Description
KW0600213	KW06-213	Digital Port Hardness Tester

Accessories:

• Removable printer	1
• Impact device type D	1
• Test block with HLD value	1
• Charger	1
• Cleaning brush	1
• Carrying case	1

Specification	
Hardness Scale	HL, HRC, HRB, HV, HB, HS
Tensile Strength U.T.S Range (mpa)	374~1999
Accuracy	±6HLD (760 ± 30HLD) Error of Displayed Value 6hld (760 ± 30hld) Repeatability of Displayed Value
Standard Impact Devices	D
Optional Impact Devices	DC/D+15/G/C/DL
Max. . Workpiece Hardness (Convex/Cancove)	996HV (for impact devices D/DC/DL/D+15/C) 646HB (For Impact Device G)
Min. Workpiece Weight (kg)	2~5 on Stable Support 0.05~2 with Compact Coupling
Min. Workpiece Thickness (mm)	5 (Impact Device D/DC/DL/D+15) 1 (Impact Device C) 10 (Impact Device G)
Min. Thickness of Hardened Layers (mm)	0.8
Power	Rechargeable Batteries NiMH 5 x 1.2V 600mAh
Charging Time	3 hours
Continuous Working Time (h)	About 50 (without Printing and Backlight)
Operating Temperature (°c)	– 0~40
Relative Humidity	<90%
Overall Dimension (mm)	268 x 86 x 50
Weight (gr)	615 (Including Impact Device and Printer)

Measuring Range

Specification	Hardness Scale	D/DC LD: 170-900	D+15 LD+15:330-900	C LC:350-960	DL LC:560-950	G LG:200-750
Steel and Cast Steel	HRC HRB HB HV HS	20.4-68.4 38.4-99.8 81-654 81-955 32.5-99.5	19.3-67.9 80-638 80-937 33.3-99.3	20-69.51	20-69.52	
Cold Work Steel/ Stainless Steel	HRC HV	20.4-67.1 80-898	19.8-68.2 80-935	80-683 80-996	37-99.9 81-646 80-950	47.7-99.9 90-646
Cast Aluminium	HB HRB	19-164 23.8-84.6	19.8-68.2 80-935	31.8-102.1 20.7-68.2	30.6-96.8	
Nodulor Cast Iron	HB	131-387		100-941		32-168
Grey Cast. Iron	HB	93-334		23-210		23.8-85.5 127-364
Brass	HB HRB	40-173 13.5-95.3		22.7-85		92-326
Bronze	HB	60-290				
Copper	HB	43-315				

HARDNESS TESTER

KRISBOW

Digital Portable Hardness Tester

Features :
- Types of impact devices auto–identification
- Extended testing range
- Memory up to 240-1000 groups of data
- RS232 data output
- Li battery
- One main unit can match with various impact devices (D,DC,DL,D+15,C,G and E). Recalibration isn't necessary
- when the impact device is replaced

Benefits:
- The tested results can be printed repeatedly by its thermal printer
- Calibration can be made by users

Order No.	Type	Description
KW0600253	KW06-253	Digital Hardness Tester c/w Impact HardnessDevice

Specification	
Hardness Scale	HL, HRC, HRB, HV, HB, HS
Memory	240-1000 Groups (Impact Times: 32-1)
Tensile Strength U.T.S. Range (mpa)	374~2652
Accuracy (hld)	• ±6hld (760 ± 30hld) Error of Displayed Value • 6hld (760 ± 30hld) Repeatability of Displayed Value
Statistic Function	Average /Max. /Min Value Calculation, Limits Setting and Alarm
Standard Impact Devices	D
Optional Impact Devices	Dc/Dl/C/D + 15/G
Max. Workpiece Hardness	• 996hv (for Impact Devices D/Dc/Dl/D+15/C • 646hb (for Impact Device G)
Min. Radius of Workpiece (Convex/Cancave)(mm)	Rmin=50 (With Support Ring Rmin=10)
Min. Workpiece Weight (kg)	2~5kg On Stable Support 0.05~2kg with Compact Coupling
Min. Thickness Of Hardened Layers (mm)	0.8
Power	Rechargeable Li Battery
Charging Time	2.5~4 Hours
Continous Working Time (h)	About 100h (No Printing and Backlight)
Operating Temperature (°c)	0~40
Relative Humidity (%)	<90%
Overall Dimension (mm)	230 X 90 X 46.5
Weight (gr)	420 (Including Impact Device and Printer)

HARDNESS TESTER

Shore Rubber Hardness Tester

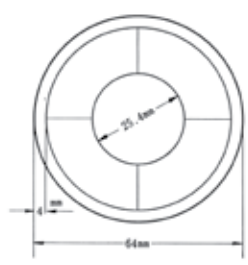
- Digital durometer for shore hardness testing
- Pocket size model with integrated probe
- Meets DIN 53505, ASTM D 2240, ISO 7619
- RS-232C data output
- Operating stand optional
- Bright and clear LCD display
- 300 hours continous use with standard batteries: no cables!

Specification	
Test Scale Available	Shore A
Result Display	Hardness Result, Average Value, Max. . Value (Peak Value, Lock), Battery Indication
Result Display Resolution	0.1 Unit
Data Output	Rs-232
Statistic	Total Test, Highest Hardness, Average
Feature	Automatic Shut Off, Battery Low Alarming
Operating Temp (°c)	0-40
Power (v)	3x1.25 Batteries
Dimension (gr)	145

Order No.	Type	Description
KW0600313	KW06-313	Shore Rubber Hardness Tester

HARDNESS TESTER BLOCK

Y.S.T.L



Feature :
To check the stability of tester used in calibration, test block should be chosen according to calibration requirements.

Benefits :
- Test blocks can be generally used to verify the accuracy, reliability, and the adjusment of each tester.
- Tolerance and variation of testers and test blocks based on Japanese Industrial Standard (JIS).

Continue to the next page

HARDNESS TESTER

Standard Blocks for Hardness

To improve tester performance before thr calibrator

Advantages Calibrating with the World's Most Accurate Blocks.

The Most Consistent and reliable commercially available in the world.

Twice the Useble Test Areas, Thicker and More Stable.

To Improve Tester Performance in Metal Hardness Testing.

Order No.	Type
MT0003463	HB 180
MT0003473	HB 200
MT0003474	HB 150
MT0003811	HBW 500 (+/-15)
MT0003150	HMV 700 (+/-15)
MT0003169	HR 30T
MT0003962	HR 35C
MT0003545	62 HR 30T (+/-2)
MT0004087	HRA 85 (+/-1)
MT0003620	HRA 56 (+/-1)
MT0003060	HRB 95 (+/-3)
MT0003148	HRB 90 (+/-3)
MT0003476	HRB 100 (+/-3)
MT0003477	HRB 72 (+/-3)
MT0004349	HRB 32 (+/-3)
MT0004350	HRB 52 (+/-3)
MT0004351	HRB 82 (+/-3)

MT0000992	HRC 60 (+/-1)
MT0003061	HRC 30 (+/-1)
MT0003146	HRC 40 (+/-1)
MT0003147	HRC 62 (+/-1)
MT0003378	HRC 64 (+/-1)
MT0003379	HRC 67 (+/-1)
MT0003475	HRC 70 (+/-1)
MT0004086	HRC 50 (+/-1)
MT0004348	HRC 25 (+/-1)
MT0003508	HS 90 (+/-2)
MT0003478	HV (10) 200 (+/-15)
MT0003479	HV (10) 300 (+/-15)
MT0003729	HV (30) 800 (+/-15)
MT0003814	HV (30) 700 (+/-15)
MT0004352	HV (10) 100 (+/-15)
MT0004353	HV (10) 400 (+/-15)
MT0004354	HV (30) 700 (+/-15)
MT0004355	HV (30) 900 (+/-15)

HARDNESS TESTER

Hardness Tester

Features:

- USB communication interface
- Automatic identification of impact test direction
- Memory of 270 average data in 9 group files
- Upper and lower limit setting
- Automatically switch off
- Backlight for convenient use in darkness
- Software calibration
- Battery capacity display

Accessories:

• Battery AAA 1.5V	2
• Instruction manual	1
• Carrying case	1
• Battery AAA 1.5V	2
• Instruction manual	1
• Carrying case	1

Specification	
Standard Impact Device	D Integrated
Hardness Scales	Hld, Hb, Hrc, Hrb, Hv, Hs
Measuring Direction	360°
Accuracy	± 6hld (760 ± 30hld) ±10hld (530 ± 40hld)
Memory	270 Average Readings in 9 Group Files
Output	Usb2.0
Min. Surface Roughnss of Work-piece (mm) (ra)	1.6
Max. Workpiece Hardness (hv)	955
Max. Radius Of Workpiece (Convex/Concave) (mm)	Rmin = 50 (with Support Ring Rmin = 10)
Min. Workpiece Weight (kg)	2~5 On Stable Support0.05~2 with Compact Coupling
Min. Workpiece Thickness Coupled (mm)	5
Min. Thickness of Hardened Layers (mm)	0.8
Continous Working Time (h)	150 (without Backlight)
Power (v)	AAA 1.5 Batteries (2pcs)
Operating Temperature (°c)	0~40
Overall Dimensions (mm)	155 x 55 x 25
Weight (gr)	1.66

Order No.	Type	Description
KW0600328	KW06-328	Hardness Tester

Material	HLD	HRB	HRC	HB	HV	HS
Steel and Cast Steel	300-900	38.4-99.8	20.0-68.4	81-654	81-995	32.5-995
Cold to Work Steel	300-840		20.4-67.1		80-898	
Stainless Steel	300-800	46.5-101.7		85-655	85-802	
Grey Cast. Iron	360-550			93-334		
Nodulor Cast Iron	400-660			131-387		
Cast Aluminium Alloys	170-570	23.8-84-6		19-164		
Brass	200-550	13.5-95.3		40-173		
Bronze	300-700			60-290		
Cooper	200-690			43-315		

When the best of Durometer and workpiece are cohered each other, the indentor changes shape of workpiece by pressurized force caused by spring of Durometer and workpiece makes force againts this force. Force amount of indentor is indicated as hardness when this pressurized force and repulsive force are equivalent. The reason why there are various kinds of Durometer, it is for the purpose of measuring.

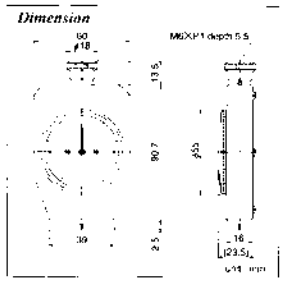
STANDARD FOR HARDNESS TEST OF VULCANIZED OR THERMOPLASTIC RUBBER

JIS K 6253, ISO7619, ISO868, ASTM D 2240

GS-719N
Type A
Durometer
General
Rubber

GS-720N
Type D
Durometer
Hard Rubber

GS-721N
Type E
Durometer
Soft Rubber



Specification							
Model	**Type**	**Application/ Material**	**Conform Standard**	**Spring Load Value 0-100**	**Indentor Shape (mm)**	**Indentor Height (mm)**	**Weight (gr)**
GS-719N	Type A	General Rubber (Medium Hardness)	JIS K 6253 ISO7619 ISO868 ASTM D 2240	550-8050mN (56.1-821.1gf)	Truncated Cone of ø 0.79 with 35° Angle	2.50	180
GS-719G	Type A (Peak Pointer Type)	General Rubber (Medium Hardness)		550-8050mN (56.1-821.1gf)	Truncated Cone of ø 0.79 with 35° Angle	2.50	180
GS-720N	Type D	Hard Rubber (High Hardness)		0-44450mN (0-4533gf)	Conical Cone of R0.1 with 35° Angle	2.50	180
GS-720G	Type D (Peak Pointer Type)	Hard Rubber (High Hardness)		0-44450mN (0-4533gf)	Conical Cone of R0.1 with 35° Angle	2.50	180
GS-721N	Type E	Soft Rubber (Low Hardness)	JIS K 6253 ASTM D 2240	550-8050mN (56.1-821.1gf)	Hemisphere of R2.50	2.50	180
GS-721G	Type E (Peak Pointer Ttype)	Soft Rubber (Low Hardness)		550-8050mN (56.1-821.1gf)	Hemisphere of R2.50	2.50	180

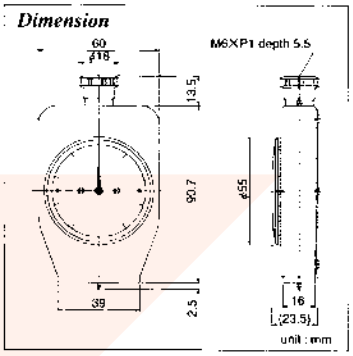
Order No.	Type	Description
TE0000031	**GS-719N**	Standard for Hardness Test of Vulcanized or Thermoplastic Rubber
TE0000028	**GS-719G**	
TEZ000001	**GS-720N**	

Order No.	Type	Description
TEZ000002	**GS-702G**	Standard for Hardness Test of Vulcanized or Thermoplastic Rubber
TEZ000003	**GS-721N**	
TEZ000004	**GS-721G**	

STANDARD FOR HARDNESS TEST OF PLASTIC JIS K 7215, ISO868, ASTM D 2240

GS-702N
Type D durometer
Plastics
Hard rubber

GS-709N
Type A durometer
General rubber
Soft plastic



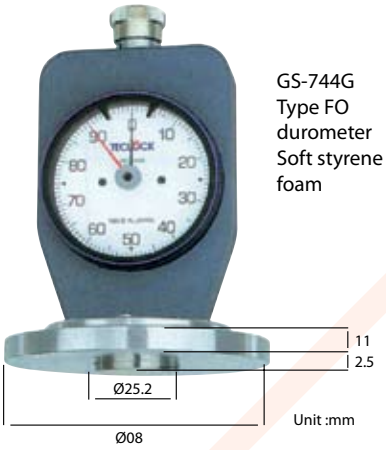
Specification							
Model	**Type**	**Application/ Material**	**Conform Standard**	**Spring Load Value 0-100**	**Indentor Shape (mm)**	**Indentor Height (mm)**	**Weight (gr)**
GS-702N	Type D	Plastics Hard Rubber	JIS K 7215 ISO868 ASTM D 2240	0-44483mN (0-4536gf)	Conical Cone of R0.1 with 35° angle	2.50	180
GS-702G	Type D (Peak pointer type)	Plastics Hard Rubber		0-44483mN (0-4536gf)	Conical Cone of R0.1 with 35° angle	2.50	180
GS-709N	Type A	Soft Plastic General Rubber		549-8061mN (56-822gf)	Truncated Cone of ø 0.79 with 35° angle	2.50	180
GS-709G	Type A (Peak pointer type)	Soft Plastic General Rubber		549-8061mN (56-822gf)	Truncated Cone of ø 0.79 with 35° angle	2.50	180

Order No.	Type	Description
TE0000010	**GS-702N**	Standard for Hardness Test of Vulcanized or Thermoplastic Rubber
TE0000005	**GS-702G**	

Order No.	Type	Description
TE0000012	**GS-709N**	Standard for Hardness Test of Vulcanized or Thermoplastic Rubber
TE0000013	**GS-709G**	

TECLOCK ORIGINAL STANDARD DUROMETER

GS-743G
Type E2
durometer
Soft Rubber



GS-744G
Type FO
durometer
Soft styrene
foam

Hardness is measured by placing GS-744G on the sponge sheet. Dispersion of polystyrene level can be judged

Order No.	Type	Description
TEZ000006	GS-743G	Teclock Original Standard Durometer
TEZ000007	GS-744G	Teclock Original Standard Durometer

Specification							
Model	Type	Application/ Material	Conform Standard	Spring Load Value 0-100	Indentor Shape (mm)	Indentor Height (mm)	Weight (gr)
GS-743G	Type E2 (Peak Pointer type)	Soft rubber	TECKLOCK E2	550-4300mN (56.1-438.6gf)	Hemisphere of R2.50	2.50	180
GS-744G	Type FO (Peak Pointer type)	Soft styrene foam	TECKLOCK FO	550-4300mN (56.1-438.6gf)	Cylindrical cone of ø 25.2	2.50	500

DUROMETER FOR HARDNESS TEST OF RUBBER CHARACTERISTIC ASTM D2240

GS-750G
Type B
Durometer
Medium-Hard
Rubber

GS-751G
Type C
Durometer
Hard Rubber

GS-752G
Type DO
Durometer
Medium-Hard
Rubber

Order No.	Type	Description
TEZ000008	GS-750G	Durometer for Hardness Test of Rubber Characteristic
TEZ000009	GS-751G	Durometer for Hardness Test of Rubber Characteristic
TEZ000010	GS-752G	Durometer for Hardness Test of Rubber Characteristic

Order No.	Type	Description
TEZ000011	GS-753G	Durometer for Hardness Test of Rubber Characteristic
TEZ000012	GS-754G	Durometer for Hardness Test of Rubber Characteristic

Specification							
Model	Type	Application/Material	Conform Standard	Spring Load Value 0-100	Indentor Shape (mm)	Indentor Height (mm)	Weight (gr)
GS-750G	Type B (Peak Pointer type)	Medium-Hard Rubber	ASTM D 2240	550-8050mN (56.1-821.1gf)	Conical corn of R 0.1 with 30° angle	2.50	180
GS-751G	Type C (Peak Pointer type)	Hard Rubber	ASTM D 2240	0-44450mN (0-4533gf)	Truncated cone of ø 0.79 with 35° angle	2.50	180
GS-752G	Type DO (Peak Pointer type)	Medium-Hard Rubber	ASTM D 2240	0-44450mN (0-4533gf)	Hemisphere of R 1.19	2.50	180
GS-753G	Type O (Peak Pointer type)	Soft Rubber	ASTM D 2240	550-8050mN (56.1-821.1gf)	Hemisphere of R 1.19	2.50	180
GS-754G	Type OO (Peak Pointer type)	Very Soft Rubber	ASTM D 2240	203-1111mN (20.7-113.3gf)	Hemisphere of R 1.19	2.50	180

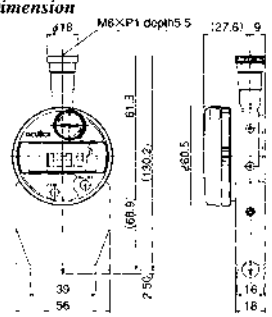
DIGITAL DUROMETER

TECLOCK

- Possible to observe a change of hardness with the passage in time.
- Minimum readable value is 0.5HS which 1/2 of analog type.
- Statistic calculation is possible by connected to SD-764P Printer (Option).

GSD-719S
Type A Durometer
Digital Type

Dimension



unit : mm

Specification							
Model	**Type**	**Application/ Material**	**Conform Standard**	**Spring Load Value 0-100**	**Indentor Shape (mm)**	**Indentor Height (mm)**	**Weight (gr)**
GSD-719S	Type A	General Rubber Soft Plastic	JIS K 6253, JIS K 7215, ISO7619, ISO868, ASTM D 2240 Type A Durometer	550-8050mN (56.1-821.1gf)	Truncated Cone of _ 0.79 with 35° Angle	2.50	250
GSD-720S	Type D	Hard Rubber Plastic	JIS K 6253, JIS K 7215, ISO7619, ISO868, ASTM D 2240 Type D Durometer	0-44450mN (o-4533gf)	Conical Corn of R 0.1 with 30° Angle	2.50	250
GSD-721S	Type E	Soft Rubber	JIS K 6253, ASTM D 2240 Type E Durometer	550-8050mN (56.1-821.1gf)	Hemisphere of R2.50	2.50	250
GSD-701S	Type SRIS	Soft Rubber	SRIS 0110, JIS S 6050	539-8379mN (55-855gf)	Hemisphere of ø 5.08	2.54	250
GSD-706S	Type A (old)	General Rubber	JIS K 6301, Spring type A Style	539-8379mN (55-855gf)	Truncated Cone of ø 0.79 with 35° Angle	2.54	250
GSD-743S	Type E2	Soft Rubber	TECKLOCK E2 Durometer	550-4300mN (56.1-438.6gf)	Hemisphere of R2.50	2.50	250
GSD-744S	Type FO	Soft Styrene Foam	TECKLOCK FO Durometer	550-4300mN (56.1-438.6gf)	Cylindrical Cone of ø 25.2	2.50	250
GSD-750S	Type B	Medium-Hard Rubber	ASTM D 2240, Type B Durometer	550-8050mN (56.1-821.1gf)	Conical Corn of R 0.1 with 30° Angle	2.50	250
GSD-751S	Type C	Hard Rubber	ASTM D 2240, Type C Durometer	0-44450mN (o-4533gf)	Truncated Cone of ø0.79 with 35° Angle	2.50	250
GSD-752S	Type DO	Medium-Hard Rubber	ASTM D 2240, Type DO Durometer	0-44450mN (o-4533gf)	Hemisphere of R1.19	2.50	250
GSD-753S	Type O	Soft Rubber	ASTM D 2240, Type O Durometer	550-8050mN (56.1-821.1gf)	Hemisphere of R1.19	2.50	250
GSD-754S	Type OO	Very Soft Rubber	ASTM D 2240, Type OO Durometer	203-1111mN (20.7-113.3gf)	Hemisphere of R1.19	2.50	250

Order No.	Type	Description
TEZ000013	**GSD-719S**	Digital Durometer
TEZ000014	**GSD-720S**	Digital Durometer
TEZ000015	**GSD-721S**	Digital Durometer
TEZ000016	**GSD-701S**	Digital Durometer
TEZ000017	**GSD-706S**	Digital Durometer
TEZ000018	**GSD-743S**	Digital Durometer

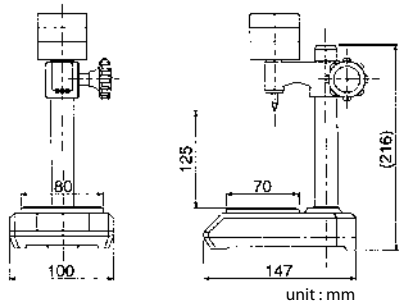
Order No.	Type	Description
TEZ000019	**GSD-744S**	Digital Durometer
TEZ000020	**GSD-750S**	Digital Durometer
TEZ000021	**GSD-751S**	Digital Durometer
TEZ000022	**GSD-752S**	Digital Durometer
TEZ000023	**GSD-753S**	Digital Durometer
TEZ000024	**GSD-754S**	Digital Durometer

DUROMETER TESTER

GS-707 Series

Durometer is option

Dimension



unit : mm

Specification		
Model	**Applicable Durometer Model**	**Weight (gr)**
GS-707	GS-701N/GS-701G/GS-706N/GS-706G	3.7
GS-707A	GS-709N/GS-709G	3.7
GS-707B	GS-719N/GS-719G/GS-721N/GS-721G	3.7

Order No.	Type	Description
TE0000014	**GS-707**	Durometer Tester
TEZ000025	**GS-707A**	Durometer Tester
TEZ000026	**GS-707B**	Durometer Tester

FERRISTCOPE FMP30

Microprocessor Digital Anemometer W/Thermometer

Ferritscope measures the ferrite content in austenitic and duplex steel according to the magnetic induction method. All magnetic components of the otherwise non-magnetic structure are recognized, that is, in addition to delta ferrite and other ferritic components transformation martensite is also recognized. The instrument is suitable for measurements according to the Basler Standard or according to DIN 32514-1. Areas of application are on-site measurements, e.g., of austenitic claddings as well as weld seams in stainless steel pipes, containers, boilers or other products made of austenitic or duplex steel.

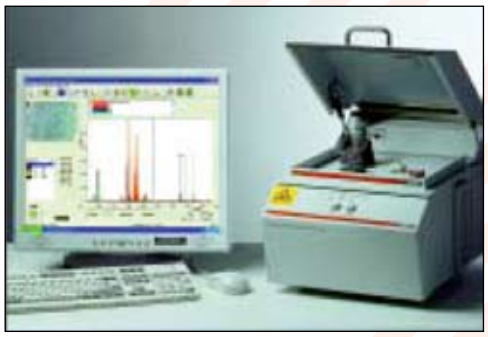
Features :

- Non-destructive measurement of the ferrite content in a range of 0.1 to 110 FN or 0.1 to 80% Fe in austenitic and duplex steel
- Only one calibration required for the entire practically relevant measurement range from 0.1 to about 90 FN.
  Measurement accuracy according to ANSI/AWS A4.2M/A4.2:1997 standard
- Calibration with standards traceable to TWI secondary standards or with customer-specifi c standards
- Measurement units selectable between WRC-FN and % Fe
- Memory for up to 20,000 readings
- Up to 100 applications for measuring application specific calibrations
- Display of statistical common characteristic values such as mean value, standard deviation, min, Max. , range in the block and fi nal results. Output of characteristic variance-analytical values
- Graphical measurement display as a histogram with a gaussian plot
- Matrix measuring mode for connected multi-point measurements, e. g., in a pre-defi ned surface array
- Application linking mode: ability for common normalization/calibration of applications
- Designations for applications through the optional PC program MP-Name.
- Data transfer to a PC into an excel spreadsheet with the optional PC program PC-Datex

RoHS TESTER

Fischerscope X-ray XAN for RoHS testing

X-Ray Spectrometer for Quantitative Analysis



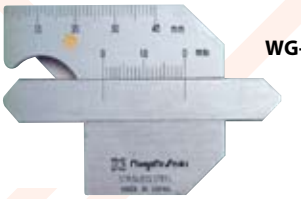
Particularly simple and quick handling of the parts to be measured is possible due to the special design with the primary X-ray beam and the detector underneath the specimen support. Suitable for all fields of application in particular for RoHS/WEEE and precious metal analysis. With semiconductor detector and WinFTM® V.6 software.

Spectrometer for coating thickness measurement and materials analysis.
Measurement method: energy dispersive X-ray fluorescence (EDXRF) according to DIN EN ISO 3497 and ASTM B 568.

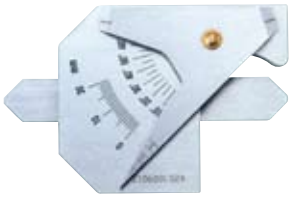
RoHS/WEEE

- Very reliable measurement of Pb, Hg, Cd, Brand Cr. The achiev able detection limits are 2 ppm for lead, and 10 ppm for cad mium.
- The RoHS / WEEE limit values of 1000 ppm (Pb) and 100 ppm (Cd) can be verified reliably.
- Plastic samples can be analyzed correctly regardless of their thickness.
- Even small electronics components or coating systems on printed conductors are analyzed with point precision.

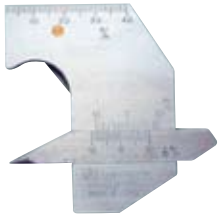
WELDING GAUGE



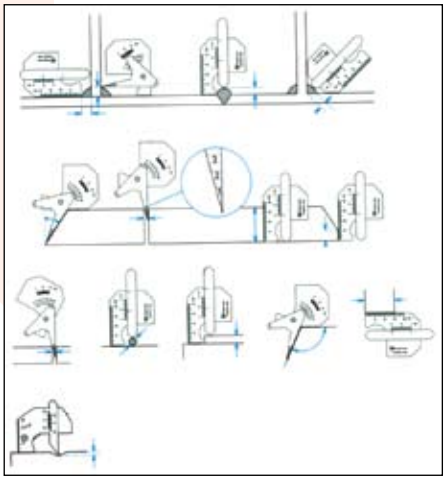
WG-1



WG-2



Application



Order No.	Description
F10000205	SK WG-1 Welding Gauge (M)

CONCRETE TEST HAMMER TYPE NR

Concrete Test Hammer type NR is an equipment to measure hardness of concrete and this equipment can record the result of measurement.

Order No.	Type	Description
PC0000005	31002000	Concrete Test Hammer Type NR

Feature :

Concrete testing with original SCHMIDT Hammer is the most frequently used method worldwide for non- destructive testing of concrete and structural components. Measuring range 10 to 70 N/mm² compressive strength. Rebound values are recorded as a bar chart on a paper strip. One roll of paper strip offers room for 4000 test impact.

Type	Dimension (mm)	Weight (kg)
Case type N/L/LB	325 x 125 x 140	1.6 / 1,4 / 1,4
Case type NR/LR/P/PT/PM	330 x 300 x 110	2,9 / 2,7 / 3,2 / 3,2 / 3,2
Case type M	745 x 145 x 195	12

CONCRETE TEST HAMMER TYPE L/LR

Concrete test Hammer Type L/LR is used to measure hardness of Concrete. This Equipment is used to measure concrete which the thickness of concrete is less than 100 mm. Type L Can not record the result of measurement but type LR can Record the result of measurement.

Order No.	Type	Description
PC0000002	31003000	Concrete Test Hammer Type L
PC0000003	31004000	Concrete Test Hammer Type LR

Feature :

Concrete testing with original SCHMIDT Hammer is the most frequently used method worldwide for non-destructive testing of concrete and structural components.
Measuring range 10 to 70 N/mm² compressive strength.
These types are used for testing thin walled (< 100 mm) or small components but also cast stone components sensitive to impact.

Type	Dimension (mm)	Weight (kg)
Case Type N / L / LB	325 x 125 x 140	1.6 / 1,4 / 1,4
Case Type NR/LR/P/PT/PM	330 x 300 x 110	2,9/2,7/3,2/3,2/3,2/3,2
Case Type M	745 x 145 x 195	12

CONCRETE TEST HAMMER TYPE LB

Concrete Test hammer type LB is used to measurement hardness of fired clay product

Feature :

Concrete testing with original SCHMIDT Hammer is the most frequently used method worldwide for non-destructive testing of concrete and structural components. Dimensions and impact energy as for type L. The impact plunger tip is a special design. This type is used for fired clay products.

Order No.	Type	Description
PCZ000004	31003001	Concrete Test Hammer Type LB

CONCRETE TEST HAMMER TYPE N

Concrete test hammer type N is an equipment to measure hardness of concrete. This Equipment use for concrete which the thickness is more than 100 mm

Features :

- Portable equipment which can use in any field condition
- Minimalize waste of time because easy to use
- Simple to calibrate

Type	Dimension (mm)	Weight (kg)
Case type N / L / LB	325 x 125 x 140	1.6 / 1,4 / 1,4
Case type NR/LR/P/PT/PM	330 x 300 x 110	2,9/2,7/3,2/3,2/3,2/3,2
Case type M	745 x 145 x 195	12

Order No.	Type	Description
PC0000004	31001001	Concrete Test Hammer N

COMPUTER SYSTEM CONCRETE COMPRESSION TESTER

GT-7001-BC

For concrete, cement blocks, various bricks, etc, to test their bending and pressure resistant strength

Specification			
Capacity (optional) (kN)		2000	500
Standard Device		Computer System	
Load Range		Full Scales At The Same Applications	
Resolution		1/200,000 (or 1/300.000 specified)	
Test Space.(HxD) (mm)		340 X 350	340 x 270
Upper Die Diameter (mm)		ø165	
Hydraulic Stroke (mm)		50	
Pressure Speed (mm/min)		0.01~35	
Dimension (WxDxH) (cm)	Main Unit	44 x 55 x 127	38 x 40 x 110
	Control unit	112 x 74 x 158	
Power		3ph/ 220V/20A	3ph/ 220V/12A

Order No.	Type	Description
KHZ000001	GT-7001-BC	Computer System Concrete Compression Tester

MICRO - COMPUTER CONCRETE COMPRESSION TESTER

GOTECH

GT-7001-B

They are widely used in architecture, building materials, mining industries etc.

Specification			
Capacity (optional) (kN)		2000	500
Standard Device		**Micro-Computer Digital Display**	
Resolution		1/50,000	
Test Space. (H X D) (mm)		340 X 350	340 x 270
Upper Die Diameter (mm)		ø165	
Hydraulic Stroke (mm)		50	
Pressure Speed (mm/min)		1~35	
Dimension (WxDxH) (cm)	Main Unit	44 x 55 x 127	38 x 40 x 110
	Control unit	112 x 74 x 158	
Power		3ph/220V/20A	3ph/220V/12A

Order No.	Type	Description
KHZ000002	GT-7001-B	Micro-Computer Concrete Compression Tester

DIGITAL TACHOMETER

KRISBOW

Contact/Non Contact Digital Tachometer

Accessories :
9V battery and gift box with carring case.

Contact/Laser Photo

Digital tachometer provides fast and accurate contact and non-contact rpm and surface speed measurements of rotating objects

Features :
- Wide measurement range and high resolution
- 40 readings memories
- Built-in laser pointer
- 5 digits LCD display

Specification	
Contact Test Range (rpm)	2 to 20,000
Non-contact Test Range (rpm)	2 to 99,999
Tot Test Range (rpm)	1 to 99,999
Accuracy	±(0.05% + 1 digit)
Resolution (rpm)	0.1 (2 to 9999.9), 1 (over 10000)
Sampling Time	0.5 sec. (over 120 rpm)
Detecting Distance (mm)	50 to 500
Time Base	Quartz crystal
Power Consumption (mA)	Approx. 45
Battery (V)	9
Size (HxWxD) (mm)	160 x 60 x 42
Weight (gr)	160

Order No.	Type	Description
KW0600563	KW06-563	Contact/Non Contact Digital Tachometer

TACHOMETER

HT 3200 and 4200

An instrument to measurement vortex in a rotating equipment, for example: pump, compressor, genset, turbin, etc.

Features :

- Compact size and large LCD
- Memory function with up to 10 memories
- Over range display function which fixes the display value to the maximum value and display "error" if the measurement value exceeds each measurement range
- Retains the display of the final measurement value for about 30 seconds after completion of measurement

Technical Data	HT 3200	HT 4200
Range (r/Min)	Lo Range : 1,5 – 2000	30 - 50.000
	Hi Range : 15 – 10.000	30 – 12499
Accuracy (r/Min)	L Range : 1,5 – 1249,9	12500 – 24.999
	L Range : 1250,0 – 2000,0	25.000 – 50.000
	H Range : 15 – 10000	
Operating Temperature	0°C – 40°C	
Battery	Battery AAA 50 Hours	Battery 20 Hours
Dimension and Mass	171,5 x 38 x 60mm and 200gr	129 x 62 x 26,4mm and 90gr

Order No	Type	Description
ON0000003	HT-3200	Tachometer Contact 1.5 ~ 10000rpm
ON0000004	HT-4200	Tachometer Non Contact 30 ~ 50000rpm

Kawatetsu Advantech Co.Ltd

VIBROMETER

Vibrometer MK 21

Is an equipment to measure and diagnose condition of bearing in the rotating equipment. Example bearing in : pump, compressor, generator, and many of rotating equipment.

Features :

- Has 3 measurement modes : acceleration, velocity and displacement
- Equipped with diagnosis function compliant with ISO 10816-1 (JIS B 0906)
- Also allows easy diagnosis of bearing with assessment criteria indicated on the back of main unit
- Capable of continuously operating for more than 8 hours with one AA cell battery (Equipped with an auto turn off)
- Uses a vibration pick-up provided with a magnet to ensure stable measurement accuracy

Order No.	Type	Description
KE0000041	MK 21	MK21 Portable Vibrometer

Technical Data	
Measurement Mode	Acceleration (ACC)
	Acceleration Peak (ACC PEAK)
	Velocity (Vel)
	Displacement (DISP)
Measurement Range	Acceleration (Low Range : 0,0 – 20,0m/s²) (High Range : 0 – 200m/s²)
	Acceleration Peak (Low Range : 0,0 – 20,0m/s²) (High Range : 0 – 200m/s²)
	Velocity (Low Range : 0,0 – 20,0m/s²) (High Range : 0 – 200m/s²)
	Displacement (Low Range : 0 – 200µm) (High Range : 0 – 1990µm)
Measurement Frequency Range	Acceleration : 1kHz – 20kHz
	Acceleration Peak : 1kHz – 20 kHz
	Velocity : 10 Hz – 1kHz
	Displacement : 10 Hz – 1kHz
Temperature Range	0° to 50°C

Kawatetsu Advantech Co.Ltd

VIBROMETER

VIBROMETER MK-210

This advanced diagnosis tool improves machine diagnosis. It offers enhanced visibilty, ease of use, and network integration.

Advantage 1: Only one instrument is required for patrol inspections.
This instrument improves the efficiency of inspection work because only one tool can handle all data gathering during patrol inspections, including temperature measurements, vibration data management, and on-site indicators.

Advantage 2: You can determine maintenance actions on-site.
Maintenance staff can determine maintenance actions on-site because analysis of the causes of abnormal vibrations is automatically performed simply by inputting device specifications.

Advantage 3: The high-resolution display is easy to read.
The instrument displays color-coded results results of the diagnosis and inspection. The high-resolution window display ensures high visibilty.

Advantage 4: Robust design ensures durability and weather resistance.
Robust construction makes this unit impervious to dusty factory environments. What's more. the instrument is operable even in the rain.

Precision Diagnostic Function

Input Signal	Acceleration Pickup Signal, 1 Channel		
Measurement Mode Measurement Frequency Range Measurement Range	Measurement Mode	Measurement Frequency Range	Measurement Range
	Accelaration ACC (TH/OA)	5 Hz to 20 kHz	0.5, 1.5, 5, 15, 50 G_{O-P} (1G = 9.8 m/s²)
	Accelaration ACC (OA)	1 Hz to 20 kHz	
	Accelaration ACC (PEAK)	1 Hz to 20 kHz	
	Accelaration ACC (ENV)	1 Hz to 20 kHz	
	Velocity (VEL)	5 Hz to 20 kHz	0.5,1.5,5,15,50 cm/S_{O-P}
	Displacement (DISP)	5 Hz to 250 Hz	50,150, 500, 1500, 5000µm$_{P-P}$
Analysis Frequency Range	100 Hz, 200 Hz, 500 Hz, 1 kHz, 2 kHz, 5 kHz, 10 kHz, 20 kHz (full scale)		
Resolution	1/400 and 1/800 oh The Analysis Frequency Range		

VIBRATION TESTER

KRISBOW

Vibration Tester

Basic Configuration:
- Main body
- Power adaptor 6V/800mA ~ 220V/50Hz
- Vibration Transover
- Leather Wrap
- Package Case

Optional Accessories:
- Printer
- Magnetic base
- Probe Group ware
- Long Neddle
- Dataview software

Features:
- Three display modes:
  Common mode-display any one of acceleration, velocity or displacement.
  Spesial mode-display acceleration, velocity and displacement simultaneity.
  Spectrum mode-display Spectrum charts
- Print out measurement value and spectral charts, if equipped with printer
- Measurement values and spectral charts can be analyzed with PC and software
- Memory function: It can store 25 x 62 measurement values and 25 spectral charts

Benefit :
- Simple failure diagnosis: Automatically raise the alarm and request to enter into spectrum testing mode when the measurement value is beyond the limit

Specification	
Transducer	Piezoelectric acceleration
Measurement Range	Acceleration: 0.1m/s² – 329m/s² (Peak) Velocity: 0.01cm/s–80cm/s (RMS) Displacement: 0.001mm–10mm (Peak-peak)
Frequency Range (kHz)	Acceleration: 10–200, 10–500 10–1, 10–10 Velocity: 10–1 Displacement: 10–500
Accuracy	± 5%
Temperature Range (°C)	0 ~ 40
Humidity range	≤80%
Display screen	LCD, 320 x 200 pixels, with LED Backlight
Li Battery	Work 20 Hours Continuously. Charging Time 12 hours
Dimensions (mm)	171 x 78.5 x 28
Weight (gr)	230

Order No.	Type	Description
KW0600254	KW06-254	Vibration Tester

Vibration Tester

Accessories:
- Accelerometer probe 1
- Magnetic base 1
- Battery charger 1
- Instruction manual 1
- Carrying case 1

Features:
- Analysis acceleration, velocity and displacement
- For checking of unbalance, mis-alignment, bearings and gears
- Large memory of 100 results and 10 frequency spectograms
- Includes a hand-held accelerometer probe with a removable magnetic base
- Rechargeable battery
- Large LCD display all functions and parameters
- Upper and lower limit setting and sound alarm
- Printer included

Specification		
Acceleration (m/s)	Peak Value from 0.1 to 199.9	Frequency Range 10Hz to 500Hz 10Hz to 1KHz 10Hz to 10 KHz
Velocity (cm/s)	RMS from 0.01 to 19.99	Frequency Range 10Hz to 500Hz 10Hz to 1 KHz
Displacement (mm)	Peak to Peak from 0.001 to 1.999	Frequency Range 10 Hz to 500 Hz
Operating Temperature (°C)	0 C - 40	
Power supply	Nickel-Codmium Battery 4 x 1.25V Rechargeable	
Dimension (mm)	270 x 86 x 47	
Weight (gr)	650	

Order No.	Type	Description
KW0600332	KW06-332	Vibration Tester

ANEMOMETER

KRISBOW

Microprocessor Digital Anemometer W/Thermometer

Multi Functional Measurement Air Velocity

Specification	
Measurement Range	0.4-30m/s
	1.4-108km/h
	80-5910ft/min
	0.8-59.3knots
Temperature Range (°c)	0-60
	32-140°C
Resolution	0.1/1
Accuracy	± (2%n+1d)
Power supply (VDC)	9
Dimension (mm)	140x71x32
Weight (gr)	325

Features :
- Selectable unit : m/s, km/n, ft/min, knots
- Measure the velocity of air flow
- Used on air conditioning service, airport, farm, construction, climate control industry

Order No.	Type	Description
KW0600407	KW06-407	Microprocessor Digital Anemometer w/ Thermometer

Microprocessor Digital Anemometer

Features :
- Selectable unit : m/s, km/n, ft/min, knots
- Measure the velocity of air flow
- Used on air conditioning service, airport, farm, construction, climate control industry

Specification	
Measurement Range	0.4-30m/s
	1.4-108km/h
	80-5910ft/Min
	0.8-59.3knots
Temperature Range (°c)	0-60
	32-140
Resolution	0.1/1
Accuracy	± (2%n+1d)
Power supply (VDC)	9
Dimension (mm)	140x71x32
Weight (gr)	325

Order No.	Type	Description
KW0600406	KW06-406	Microprocessor Digital Anemometer

OPERATIONAL PLANT-WIDE QUALITY CONTROL SYSTEM for waste Reduction

Fexsoft

FexQMS is a real-time Operational Quality Control System that uses Statistical Process Control (SPC) to predict whether a machine will produce defective parts in real-time and alert the engineers immediately for prompt actions to be taken to minimize Cost of Poor Quality (CoPQ). The system can be implemented in all stages of quality control from Supplier Management and Incoming Material to In-process to Qutgoing Products.

Features :
- Supplier/incoming quality management
- In-process quality management
- Customer/outgoing quality management
- Real-time online statistical process control (SPC)
- Real-time out-of-control (OOC)/ out-of-specifications (OOS) monitoring
- Out-of-control /out-of-specifications action plans (OCAP/OSAP)
- Non-conformance management (NCM)
- Corrective action preventive action management (CAPA)
- Automated certificate of compliance (C-of-C)
- Web-based and excel-based reporting
- Fully web-based intranet
- Automated data collection (directly linked to gages, CMM, optical measurement system, etc)
- Integration to other IT Systems (ERP, WMS, AS400, legacy systems, etc)

Existing IT Systems (ERP, WMS, MES, etc)

Production

Quality

PLCs, Testing Equipment and Measurement Tools

FexQMS Manages Product and Process Quality from Incoming to In-process to Outgoing

Management

Incoming/delivery

Customers

Suppliers

Co-worker while traveling

Connecting to Customers, Suppliers and Co-workers through the Internet

HUMIDITY AND TEMPERATURE METER

KRISBOW

Humidity and Temperature Meter

Features:

- Non-contact InfraRed thermometer with laser pointer measures to -50.0°C ~ 500°C or -58.0°F ~ 932°F
- Easy to use with measure temperature of hot or moving objects from a safe distance
- Fixed emissivity (0.95) covers 90% of surface applications
- Narrow 8:1 field of view (at 8" distance, measure 1" target)
- Built -in laser pointer to improve aim
- Fast sampling time
- Resolution to 0.1° or 1°
- °C/°F switchable and auto power off
- Dual Super Large 3½ Digit (1999 count) multifunction backlit LCD
- Data Hold and Max. Hold
- Auto-hold after releasing the Measure button
- Complete with 9V battery
- Dimensions: 150 x 75 x 40mm
- Weight: 200gr

Specifications: (IR Thermometer)

Measuring Range	Resolution	Basic Accuracy
-50.0°C ~ 200.0°C	0.1°C	±2%, ± 2°C or ±2°F
-50°C ~ 500°C	1°C	
-58°F ~ 200.0°F	0.1°F	
-58°F ~ 932°F	1VF	

Specifications: (Humidity Meter)

Measuring Range (RH)	Resolution (RH)	Basic Accuracy (RH and °C)
35.0% ~ 95.0%	0.1%	±5% and 25

Order No.	Type	Description
KW0600281	KW06-281	Humidity and Temperature Meter

Features :

- Ideal for : Laboratory, Quality Control, Air Conditioning and Process Engineering
- Instant performance of Humidity measurement by Precision thin-film capacitance sensor
- High Resolution of 0.1% R.H., 0.1°C and 0.1°F.
- Data Hold function to hold the LCD reading
- Output jack for output signal working with "chart recorde"

Specifications:

- Range
  Humidity :10% ~ 95% R.H.
  Temperature : -20°C ~ +60°C / -4°F ~ +140°F
- Accuracy (After calibration)
  Humidity : ± 3% R.H.
  Temperature : ± 0.8°C, ± 1.5°F
- Auxiliary outputs
  Humidity :10mV DC/1% R.H.
  Temperature : 10mV DC/1°C , 10mV DC/1°F

Order No.	Type	Description
KW0600128	KW06-128	Humidity and Temperature Meter w/Case

ENVIRONMENT METER

4 In 1 Light, Sound, Humidity and Temperature Meter

Features:

- 4 in 1 for light meter, sound level meter, relative humidity meter, temperature meter
- 3 ½ large LCD display with units of Lux, °C, °F, %RH and C and dB, A and dB indication
- Easy to use
- Light measuring levers ranging from 0.01 lux to 20,000 lux
- Temperature measuring levers ranging from -20°C-750°C / -4°F~1400°F
- Humidity measurement from 25%RH to 95%RH with 0.1 %RH resolution and fast time response
- Sound level measures from 35dB to 100dB for AC frequency weighting checking with 0.1 dB resolution and fast time
- Auto power off
- Data hold and maximum hold
- Accessories: 9 V battery, temperature probe
- Dimensions: 251.0 x 63.8 x 40mm
- Weight: 250gr
- Photo detector dimensions: 115 x 60 x 27mm

Specification			
Function	**Range**	**Resolution**	**Accuracy (%rdg+digits)**
Light (LUX)	20, 200, 2000, 20000 (2000x10lux)	0.01, 0.1, 1	±(5% + 10d)
Temperature	-20°C~200°C -20°C~750°C -4°F~200°F -4°F~1400°F	0.1°C 1°C 0.1°F 1°F	± (3%+2°C) ± (3%+2°C); ≤150°C; ±3% >150°C ± (3%+2°C) ± (3%+2°C); ≤302°F; ±3% >302°F
Humidity	35%RH ~ 95%	0.1%RH	± 5%RH at 25°C
Sound Level (Frequency weighting : A,C)	35dB~100dB	0.1dB	±3.5dB at 94dB Sound Level, 1kHz Sine Wave

Order No.	Type	Description
KW0600291	KW06-291	4 in 1 Environment Meter

MICROREP

Microrep TPH 01 is an equipment to measure humidity and temperature with data logger.

Features :

- High accuracy temperature measurement with 0,01C = 0,01F resolution
- Humidity measurement (0,1% resolution)
- Thermal gradient measurement
- Data Logger with large memory for data storage
- Built in display with real time reading, graph and temperature peaks
- Data loger and connect PC

Specification	
Temperature Resolution (°c)	0,01°
Temperature Accuracy (°c)	0,1+T°C-20/250
Temperature Range (°c)	-10 to 60
Humidity Resolution	0,1%
Humidity Accuracy	3,00%
Humidity Range	0 – 100% Non Condensing
Size (Approx) (mm)	75 x 110 x 30
Memory	500000 Continous Readings Equivalent to 2 MB
Interface	USB
Unit Language	English

Order No.	Type	Description
F10000026	**TPH 01**	Microrep TPH 01

MULTI-FUNCTIONAL DIGITAL THERMOMETER

GOTECH

TC-700

Made in Japan

The meter is to measure the temperatur of various materials.

Specification	
Sensor Type	Type K or J (Selectable By The Internal Dip-Switch)
Measuring Range (°C)	K: - 160 ~ + 1372
	J: - 170 ~ + 1000
Resolution	Automatic + 199.9°C or Less: 0.1°C: + 200°C or More: 1°C
Accuracy	0°C ~ + 199.9°C: ±0.1% of Reading +0.7°C
	- 0.1°C or less, +200°C or More: ±0.2% of Reading + 1°C
	(At Ambient Temp. 23±5°C)
Operation Function	°C/°F (Selectable), Auto Power - off (Selectable), Data Hold, Max. /Min. Value Record, Data Storage, Relative
Display	Hold, RCD, REL, Max. , MIN, MEM, °C/°F Burnout, Battery Alarm
Dimension (WxDxH) (mm)	68 x 35 x 165
Weight (gr)	200
Power	Battery 006 P (9V)
Accesoories	One Battery 006 P, Intruction Manual

* Equipped with one selectable thermocouple probe; additional one for extra charge.

Order No.	Type	Description
KH0000406	**TC-700**	Multi-functional Digital Thermometer

NON-CONTACT INFRARED THERMOMETER

KRISBOW

Non-contact Infrared Thermometer Gun Type

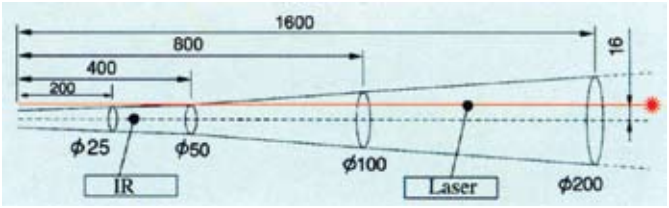
Features:

- Unique flat surface, modern housing design
- 12:1 distance to target ratio measures smaller surface areas at great distance
- Built-in laser pointer
- Backlighting display
- Automatic data hold
- Auto power off
- User selectable °C or °F
- Laser targeting
- Automatic data hold
- Auto Power off
- Backlit LCD Display
- Overrange indication
- Low battery indication
- High Temperature

KW06-304 high temperature IR Thermometers point and measure technology provide and accurate readings for most surface temperature measurements.

Specification	
Range	-50°C to 750°C (-58°F to 1382°F)
Respons Time	Less Than 1 Second
Resolution	0.1° up to 200° and 1° over 200°
Basic Accuracy	±1.5% of reading or ±2°C/±4°F(Whichever is Great)
Optical Resolution	12:1 Distance to Spot Size
Emissivity	Fixed at 0.95
Dimension (mm)	230 x 100 x 56
Weight (gr)	290

Distance (D) to Spot size (S)
D:S=12:1



(Unit: mm)

Order No.	Type	Description
KW0600304	**KW06-304**	Infrared Thermometer, -50°C ~ 750°C, Gun Type

INFRARED THERMOMETER

KRISBOW

Infrared Thermometer

Features :
- C/F selectable
- Back light and laser pointer on/off option
- Auto power off
- Low battery indication
- Auto data hold
- Max. /min/dif/ave measurement

Aplication :
- Food Industrial
- Fire Inspection
- Plastic Moulding Injection
- and many others

Specification	
Measuring Range (°c(°f))	-18 to 1500 or {0`~2732}
Respone Time (s)	0,5
Accuracy	± 2% or ± 2°C Which Over is Greater
Emisivity	0,10 to 1.00 Adjustable {pre-set 0,95}
Distance to Spot Size Ratio	50 : 1
Dimension (mm)	220 x 134 x 60
Weight (gr)	480

Order No.	Type	Description
KW0600409	KW06-409	Infrared Thermometer

NON-CONTACT INFRARED THERMOMETER

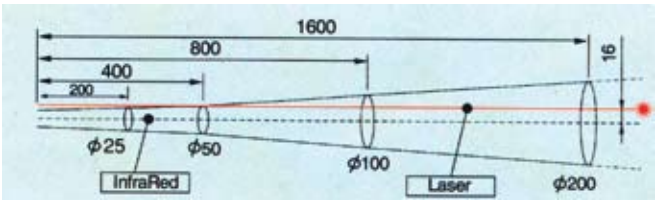
Non-contact Infrared Thermometer Gun Type

-50 to 280°C

Feature :
KW06-280 provide non-contact wide temperature measurements: Food preparation, Safety and Fire inspectors, Plastic molding, Asphalt, Marine and Screen Printing, Measure ink and dryer temperature, Diesel and Fleet maintenance. Targeting object is easy with the bright laser beam. Even in the dark, the display is easy to read with the quality backlit scroll.

Benefits:
- Unique flat surface, mini modern housing design
- Wide range temperature measurements from -50°C to 280°C (-58.0°F to 536°F) Built-in laser pointer identifiers target area
- Backlighting illuminates display for taking measurements at night or in areas with low background light level
- Overange indication
- Auto Data Hold when trigger seleased
- Auto Power Off

Distance (D) to Spot size (S)
D:S=8:1



(Unit: mm)

- User selectable °C or °F
- Laser targeting
- Automatic Data Hold
- Auto Power Off
- Backlit LCD Display
- Overrange indication
- Low battery indication

Specification	
Range (°c(°f))	-50°C to 280°C (-58.0°F to 536°F)
Respons Time	Less Than 1 Second
Resolution (°C/°F)	1°C/1°F
Basic Accuracy	±2% of reading or ±2°C/±4°F (Whicever is Great)
Optical Resolution	8:1 Distance to Spot Size Ratio
Emissivity	Fixed at 0.95
Dimension (mm)	160 x 82 x 41.5
Weight (gr)	177

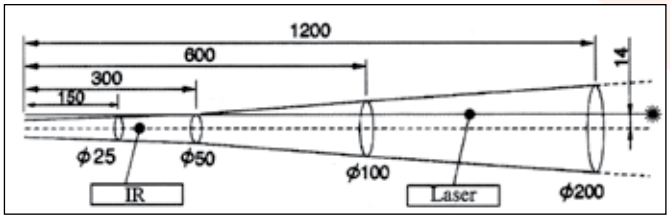
Order No.	Type	Description
KW0600280	KW06-280	Infrared thermometer, Gun Type, -50 ~ 280°C

INFRARED THERMOMETER, POCKET TYPE

Pocket Infrared Thermometer, -50 ~ 270°C

Features:

- Non-contact Infrared thermometer with laser pointer measures to -50°C ~270°C or -58°F ~ 518°F
- Pocket size and easy to use with measure temperature of hot or moving objects from a safe distance
- Fixed emissivity (0.95) covers 90% of surface applications
- Narrow 8.1 field of view (at 8~ distance. measure 1~ target)
- Built-in laser pointer to improve aim
- Fast sampling time
- Resolution to 1°
- °C/°F switchable and auto power off
- Super Large 3½ Digit (1999 counts) multifunction backlit LCD with data hold
- Max. hold
- Auto-hold after releasing the measure button
- Complete with two (AAA) 1.5V batteries
- Dimensions: 93.5 x 50 x 23.5mm
- Weight: 60gr



Specification		
Measuring Range	-50°C ~ 270°C -58°F ~ 518°F	Resolution: 1°C Resolution: 1°F
Basic Accuracy	±2%, ±2°C or ±2°	
Distance to Spot Size Ratio	6 : 1	

Order No.	Type	Description
KW0600279	**KW06-279**	Pocket Infrared Thermometer, -50 ~ 270°C

INFRARED THERMOMETER

KRISBOW

Non-Contact Infrared Thermometer

Features :

- Non-contact infrared thermometer with laser pointer
- Pocket size and Easy to use
- Fixed emissivity (0.95) covers 90% of surface applications
- Narrow 8:1 field of view (at 8" distance, measure 1" target)
- Built -in laser pointer to improve aim
- Automatic range
- Fast sampling time
- Resolution to 0.1° or 1°
- °C/°F switchable and auto power off
- Dual Super Large 3½ digit (1999 count) multifunction backlit LCD
- Data hold and max. hold
- Auto-hold after releasing the measure button
- Complete with 9V battery
- Dimensions: 160 x 56 x 40mm
- Weight: 180gr

Specification	
Range (°c(°f))	-50°C ~ 550°C (-58°F ~ 1022°F)
Respons time	Less Than 1 Second
Resolution	0.1° up to 200°, 1° over 200°
Basic Accuracy	± 2% or ±2°C/±4°F
Optical Resolution	8:1 Distance to Spot Size Ratio
Emissivity	Fixed at 0.95
Battery (v)	9
Size (HxWxD) (mm)	160 x 56 x 40
Weight (gr)	108

Order No.	Type	Description
KW0600282	**KW06-282**	Non Contact Infrared Thermometer

PH METER

GOTECH

PP-201

Measure the PH values of various solutions.

Specification	
Test Range (Ph)	0 ~ 14
Resolution (Ph) Units	0.01
Accuracy (Ph)	0.02
Weight (kg)	4.3
Power (v) Battery	9
Accessories	Electrode x1, Buffer x1

Order No.	Type	Description
KH0000191	**PP-201**	PH Meter

QNIX 1500

QNIX 1500 is an instrument to measure coating thickness with base material steel and aluminium

Features :

- Both Probe Fe and NFe integrated in the gauge.
- Large measuring range 0 - 5000 Mikron meter.
- High accuracy over entire measuring range.
- no change of probe.
- comfortable one hand operation.

Technical Data	
Substrate	
Steel and Iron	Fe – Probe
Non-Magnetic Metals, e.g. Aluminium, Zinc, Cooper, Brass	N Fe Probe
Measuring Range	0 – 5000µm
Display of Reading	From 0,00 – 999 inµm
	From 1,00 – 5,00 in mm
Accuracy	±(1µm +2%) in the range of 0 – 999µm
	±3,5% in the range of 1,00 – 5,00
Minimum Area	10x10mm²
Minimum Curvate Radius	5mm convex
	25mm concav
Minimum Thickness of Substrate	Fe = 0,2mm
	N Fe 0,05mm
Temperature Range	0°C - 50°C

Order No	Type	Description
QN0000001	**315056**	Qnix 1500 0-1500 Mikron Coating Thick

QNIX 4500

QNIX 4500

Dual probe for measurements over all metals. No calibration on an uncoated substrate. Optimum handling. The Qnix® 4500 measures over all metalls by just switching the mode from ferrous to non-ferrous or reverse.

Order No.	Type	Description
QN0000002	**380017**	Quanix 4500 F/FE 3000 Micron and NFE 0-2000 Micron Coating

Features :

For those of you who only measure over steel or iron we have designed the Qnix® 4200

- Excellent accuracy
- One button only
- One hand opperation for all applications
- Automatic switch on/off
- Display in microns or mils

Specification	
Substrate	
Steel and Iron	Fe-Probe (4200-4500)
Non-Magnetic Metals, e.g. Aluminium, Copper, Brass	Nfe-Probe (4500)
Measuring range (µm)	Fe 0 – 3000
	Nfe 0 – 2000
Accuracy	± (2µm + 3%*) (*of Reading)
Minimum Measuring Area (mm²)	10 x 10
Minimum Curvature	5mm Convex
	25mm Concave
Minimum substrate Thickness (mm)	Fe: 0,2
	Nfe: 0,05
Temperature Range (°C)	0 – 50

QNIX 8500

Features :

- For measurement coating thickness with based material ferrous and non ferrous
- Automatic indentification of gauge, including transfer of data and settings
- Easy configuration of all major fuction of Qnix 8500 on The PC
- Simultaneous operation and administration of multile Qnix 8500 gauges
- All languages installable via editor (Including Gauge Software)
- Downloadable software updates via internet
- Online measurements

Qnix 8500 Is an equipment for measure coating thickness with base material ferrous and non ferrous

Technical Data	
Fe-Probe	Measurement onIron and Steel Substrate
Nfe Probe	Measurements On Non Magnetic Metal Substrates, Such As Aluminium, Zinc, Cooper, Etc
Resolution	0,1 µm (0 to 99,9µm), 1 µm (100 bis 999µm),0,01µm (>1,00mm)
Minimum Area	Fe probe 20 x 20mm²
	Probe 20 x 20 mm² Nfe
Minimum Curvate	Convex 5mm
	30mm Concave
Minimum Sub-strate Thickness	Fe Probe 0,2mm
	0,05mm Nfe Probe
Temperature Range	Storage (- 10°C to 60°C), operating (0°C to 50°C)

Order No.	Type	Description
QN0000003	**360001**	Qnix8500 Premium set w/o probe coating thickness gauge
QN0000004	**378045**	Digital dual-probe FE/NFE 2000 micron

DUAL SCOPE MPOR-USB

Fischer

Dual scope MPOR is an equipment to measure coating thickness with base material ferrous and non ferrous. This unit can measure coating of paint, lacquer, zinc, chromium, copper, paint.

Features :

- Automatic on/off function
- Ready to measure right away with our calibration
- Quick selection of functions via user-friendly menu
- Automatic selection of the measurement method - magnetic or eddy current
- Memory for up to 1000 measurements - is retained even without power supply

Specification	
Measurement Ranges	NF, Iso/Fe: 0 – 2000µm (80 mils)
	Iso/NF: 0 – 2000µm (80 mils)
Trueness	0 ... 50 µm (0 ... 2mils):
	± 1 µm (0.04mils)
	50 ... 1000 µm (2 ... 40mils):
	1000 ... 2000 µm (40 ... 80mils):
	Up to 3%
Based on Fischer Standards	
Interface	Radio 868 Mhz (EU) / 915 Mhz (US)
Mass	60gr Without Batteries
Dimensions (mm (Inch))	W x D x H = 64 x 30 x 85 (2.5" x 1.2" x 3.4")
Power Supply	2 x LR6.AA
Protection Class	IP 52

Order No.	Type	Description
F10000128	**604-048**	MPOR USB Dualscope Coating Thickness

DUALS COPE MPOR-FP-USB

Fischer

Palm Sized Instruments

Is an equipment to measure coating thickness for example paint, lacquer, zinc, chromium, copper with base material ferrous and non ferrous. This unit use for special area.

Features :

- With a separate probe, (that is permanently connected with a 80 cm long cable), it is easy to measure the coating thickness also on small or curved areas
- User-friendly one-hand operation: simply place the instrument on the specimen and read the measurement
- Ergonomic design with two backlit displays for optimum viewing of the readings in any measurement position
- Automatic On/Off function
- Ready to measure right away without calibration
- Quick selection of functions via user-friendly menu
- Specification limits
- Optical and acoustical signals for measurement method magnetic or eddy current
- Automatic selection of the measurements is retained even without power supply
- Radio transmission of the measurements (optional receiver required)
- Statistical evaluatio
- Freely selectable offset value for automatic addition or subtraction of a constant value
- Calibration: with a foil and/ or base correction.

Specification	
Measuring Ranges: Magnetic Inductive (Mi)	Magnetic Inductive
	(MI): 0 – 2000 µm (80 mils)
Eddy Current (Ws)	0 – 2000 µm (80 mils)
Trueness U	MI; WS: ±1 µm ≤ u ≤ ±3 %
Of Reading (Depending on The Meas. Range) Based on Fischer Standard	
Interface	Radio 868 Mhz (EU) / 915 Mhz (US)
Mass	150 Without Batteries
Dimensions (Instrument Only) (Mm (Inch))	W X D X H = 64 x 30 x 85 (2.5" x 1.2" x 3.4")
Power Supply	2 X LR6.AA
Protection Class	IP 52

Order No.	Type	Description
FI0000134	**604 - 049**	Dualscope MPOR-FP

QUINTSONIC

ElektroPhysik

The new portable gauge was especially designed for non destructive test coating thickness measurement of paint, varnish, plastic, and other insulating coating applied on wood,plastics glass, ceramics,etc. as well as for polymer layers on metals. as special feature, the gauge offers the possibility to measure the total thickness as well as the individual layers of a multi layer system in only one measuring

Features :

- Measuring Paint, plastic, enamel, and other insulating coatings with 1 equipment
- Applied on wood, platic, glass, ceramic, and on metals
- Wall thickness of plastics and metals through the coating
- Measurement of a multi layer system in only one masuring proces
- Easy to Callibration

Specification	
Field of Application and Measuring Ranges	Single layers : 10µm – 500µm
	Multi Layers : Max. 500 µm Total Coating Thickness
	Wall Thickness of metals : 0,2 – 8 mm
	Wall Thickness of Plastic : 0,2 – 3 mm
Resolution (mm)	1
Measuring Uncertainty < 100mm	± (2µm + 3%)
Measuring Uncertainty > 100mm	± (2µm + 2%)
Memory Capacity	Max. 10.000 Measuring Values
Interface	RS 232 C For Mini Print Data Printer
Power Supply	2,4 V akkupack, 2 x 1,2 V AA NiMH or NiCD (Approx 2500 Measurements)
Temperature Range (°c)	-15 to 55

Order No.	Description
EV0000047	80-160-0001 Quintsonic Ultra Sonic Coating W/O Miltilayer
EV0000050	82-053-0002 Multiple Layer Verification F/ Quinrsonic

MINI TEST

High Coating Coating Thickness Temperature Up to 350°C

Features :

- For measurement coating thickness with based material ferrous and non ferrous
- Automatic indentification of gauge, including transfer of data and settings
- Easy configuration of all major function of Mini Test on the PC
- Online measurements
- Internal calibrate

Feature of Mini Test	1100	2100	3100	4100
Mini Test Memory Capacity				
- Number of Application Memories		1	10	99
- Number of Batchesf for Each Application Memory		1	10	98
- Number of Batches with Individual Value Memories		1	Max. .	Max. . 500
- Total Memory Capacity for Individual Readings	1	10,000	100ww10,000	10,000
Mini Test Statistics				
- From single values: x, σ, kvar, n, Max. , Min.		•	•	•
- From single values: x, σ, kvar, n, Max. , Min., CP, CPK			•	•
- Block statistics: x, σ, kvar, n, Max. , Min.		•	•	•
- Block statistics: x, σ, kvar, n, Max. , Min., CP, CPK			•	•
- From All Subgroups (BATCH) in The Same Application (APPL)			•	•
- Print Values and Statistics Separately to Appl-Batch Groups		•	•	•
- Display and Print-Out of Date and Time at The Time Of Print-Out and Measurement (Year, Month, Day, Hour, Minute)				

MINI TEST 1100, 2100, 3100, 4100

Mini Test 1100, 2100, 3100, 4100 is an equipment for measure coating thickness ferrous and non ferrous.

Order No	Description
EV0000014	80-117-0114 Mini Test 4100

COLOR TEST

Features :

- External, spring-loaded probe with automatic start trigger enables measurement of small probes at any angle.
- Non-volatile memory for 1,000 colour measurement results and for 100 colour measurement results including remission spectra and 200 colour standards.
- Straylight function for compensating any surrounding light when measuring on curved samples.
- Serial data transmission.

Order No.	Description
EV0000046	85-810-0008 Color test - Portable Spectrophotometer

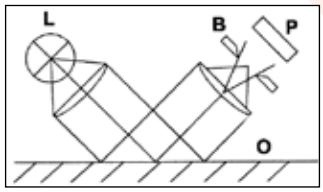
Field of Applications:

Designed for use on the production floor and for quality conformance inspection, ColorTest has proved to be the ideal instrument for a wide range of applications:

- Quality inspection (to reduce reject rates to a minium).
- Colour measurement and recording to comply with QM-systems according to DIN EN ISO.
- Colour distance measurement (sample versa reference standard).
- Measurement of absolute colour (values of a sample within a preselected colour system and with selected type of standard illumination and observation angle).
- Evaluation of measured colour information (optional report software).

Technical Data	
Measuring Geometry	45°/0°-Circular Illumination At 45°, Measurement at 0° According to DIN 5033
Standard Illumination	D65, D55, A, C
Standard Observer	2° (1931) and 10° (1964)
Colour Systems	XYZ, Yxy, ΔE CIE L*a*b*, ΔL Δa Δb, ΔE CIE L*u*v*, Hunter Lab
Spectral Range	400nm to 700nm
Spectral Resolution	10nm (Internal 3.5nm)
Repeatability DE < 0.2 (Range Tested by 10 Measurements With The Delivered White Standard) Light Source: Light Emitting Diodes* *ColorTest is Not Suitable for Measuring Fluorescent Samples	

PICOGLOSS



◀ Figure 1: measuring principle
L = Light source B = Diaphragm
O = Specimen surface P = Photocell

Features :

- Micro processor electronics.
- Gloss measurement in the range 0.0–150.0 gloss units.
- Mirror gloss measurements from 150–1999 gloss units with autoranging facility.

The Picogloss is intended for the measurement of gloss on level surfaces and uses the principle of a reflectometer.

- Picogloss 562 MC Gloss meter with two measuring angles 20° and 60°.
- Picogloss 503 Glass meter with three measuring measuring angles 20°/60°/85°.
- Picogloss 560 MC Gloss meter with single measuring angles 60°.

Technical Data	
Measuring Value Display	3 1/2 Digit LCD
Measuring Geometry	Choice Of Either 20° and/Or 60°
Light Type, Choice of Either	– Light Type A (DIN 67 530) or – Light Type C (ISO 2813)
Power Supply	Rechargeable Battery
Dimension	(W x D x H) 136 x 42 x 78mm
Net Weight:	0.5kg

Order No.	Description
EV0000035	85-800-0003 Picogloss 560MC Gloss Meter 60DEG
EV0000045	85-800-0118 Picogloss 562 MC W/Two Measuring Angles 20 and 60DEG

Kawan Lama #1 Commercial & Industrial Supply Company

DUALSCOPE FMP40

Dualscope FMP40 is an equipment to measure coating thickness with base material ferrous and non ferrous. This Unit can measure coating of paint, lacquer, zinc, chromium, copper, paint. The probe can be change which application field

Features :

- Large LCD Display for measurement and evaluation data as well as icons for status display and operation notes on display
- Automatic material recognition
- Simple calibration
- Use AC llne

Order No.	Description
FI0000155	604-286 FMP40 Dual Scope

Shape	Model	Measurement Range	Order No.
	FGAB	0-2000µm 0-80mils	604-141
	FAW3.3	0-2000µm 0-80mils	604-178
	FGABI	0-1000µm 0-40mils	604-175
	FTA3.3H	0-1200µm 0-48mils	604-142
	FAW3.3	0-1200µm 0-48mils	604-193
	FAI3.3-150	0-800µm 0-32mils	604-187
	FD10 FDX13	NF/Fe 0-1100µm 0-44mils Iso/NF 0-800µm 0-32mils	604-143 604-169

ISOSCOPE FMP30 - DELTASCOPE FMP30

Order No.	Type	Description
-	**604 - 299**	Isoscope FMP 30 w/o Probe
-	**604 - 297**	Deltascope FMP 30 w/o Probe

Features :

- The MP30 models of the hand-held coating thickness measuring instruments are:
- ISOSCOPE® MP30 models are used to measure non-conductive coatings such a paint, anodizing, enamel or plastic coatings on non-ferrous metals, and anodic coatings on aluminium
- DELTASCOPE® MP30 models are used to measure non-ferrous metal coatings (e.g., chromium, copper, zinc, etc.), and paint, enamel, or plastic coatings on iron and steel

Characteristic feature

1. AC line connection is possible as an alternative to battery operation.
2. Large LCD display formeasurement and evaluation data as well as icons for status display and operation notes on display lines
3. Automatic probe recognition
4. Statistical Evaluation of measurement series and display of minimum, maximum mean value, number of measurements, standard deviation, and date and time
5. Simple calibration adjustment to the test area geometry with the ZERO key

PHASCOPE

Phascope PMP10 utilizes the phase-sensitive eddy-current method according to the standard ISO 21968. Compared to conventional eddy-current method according to ISO 2360, this measuring method has significant advantages for the thickness measurement of metallic surface coatings.
By using the phase position of the probe signal instead of amplitude for the coating thickness compulation, the interfering influence of the specimen shape and of the probe lift-off are significantly reduced.

Copper Coating Measurements For PC-Board Production :

Available probes:

- ESL 080B and ESL080V for Cu thickness measurements in PC-board boreholes.
- ESD20Cu for surface copper thickness measurements on PC-boards.

Measurement of NFe Metal Coatings on Steel, NF or Iso Substrate Materials:

Available probes:

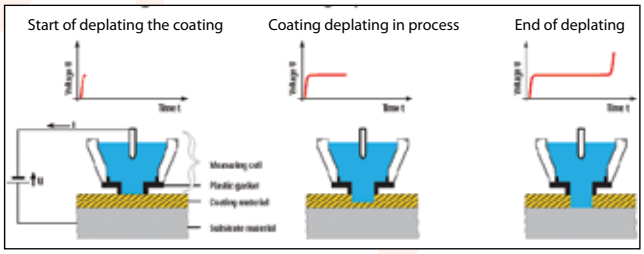
- ESD20Cu for the measurement of NF coatings of Cu, Al, brass, etc. on electronic non-conducting substrate materials
- ESD20Zn for NF coatings on steel or iron, in particular with rough surface
- ESD20Ni for Ni/Fe
- ESD2.4 for Zn/Fe on small parts

COULOSCOPE

Couloscope CMS It is the ideal instrument for measuring the thickness of virtually any metallic coating on metallic or non-metallic substrates, especially also of multiple coatings, if non-destructive methods cannot or need not to be used.

Features :

- Simple choice of deplating rate and test area size
- Available test area sizes: ø 3.2 (128), 2.2 (88) and 1.5 (60)mm (mils). 0.6mm
  (24 mils) additional for stand V18
- Deplating rate adjustable between 0.1 and 50 µm/min
- Stand V18: controlled filling and emptying of the cell by means of a pump. Multiple measurements with one cell filling and warning when the electrolyte becomes saturated.
- Zoom function to magnify interesting plot sections
- Selectable measurement units: µm or mils



COATING THICKNESS GAUGE

Coating Thickness Gauge

FERROUS AND NON FERROUS

Features:

- 2 measuring modes: continous/ single
- 2 shutdown modes: manual/ automatic
- Direct testing mode and block statistic mode (APPL/BATCH)
- Direct print out of statistical values
- Dataview to connect with PC
- 495 data can be stored

Specification	
Measuring Range	0~1250 µm with Standard Probe F1.N1 (10.000m Max.)
Tolerance	F1:±(1 µm + 3% Reading) N1:±(1.5 µm + 3% of Reading)
Resolution	Alphanumeric with 4 Large Digits
Operation Language	English
Standards	DIN, ISO, ASTM, BS
Min. Measuring Area	F1: (Standard Probe)
Min. Curvature Radius (mm)	Type F: 0,5, type N: 50
Calibration	Zero and Foil Calibration
Statistics	Number Of Measurements, Mean, Standard Deviation, Maximum and Minimum of 3000 Readings
Data Memory	495 Measuring Data
Limits	Adjustable with Acoustic Album
Interface	RS-232
Operating Temperatur (˚C)	0-40
Power Supply (V)	Nicd Rechargeable Batteries 1.25
Dimensions (mm)	270 x 86 x 47
Weight (gr)	Approx.530

Accessories

- Probe 1
- Charger 1
- Calibration foils 1
- Instruction manual 1
- Carrying case 1

Order No.	Type	Description
KW0600331	KW06-331	Coating Thickness Gauge

Coating thickness Measurement

SurfaTest

Durable Stainless Steel Wet Film Gauge

- small "foot print"
- mils and microns
- 16 measuring points

Scale Graduations

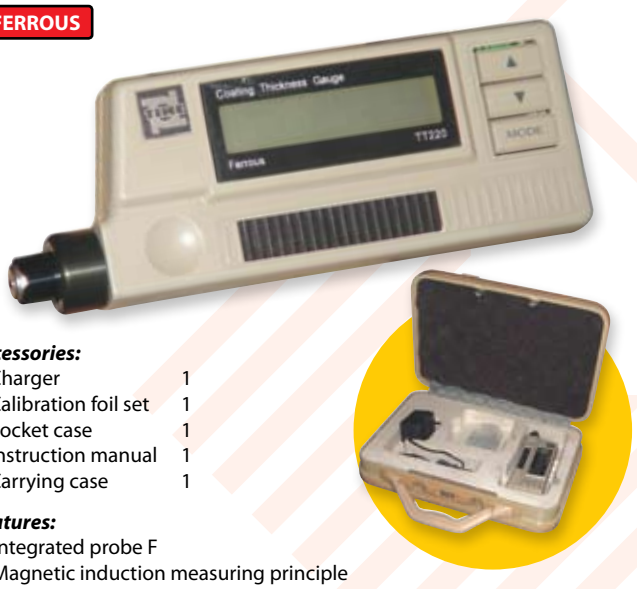
microns				mils			
25	50	75	100	1	2	3	4
125	150	175	200	5	6	7	8
250	300	350	400	10	12	14	16
500	600	700	800	20	24	28	32

COATING THICKNESS GAUGE

KRISBOW

Coating Thickness Gauge Ferrous

FERROUS



Accessories:

- Charger 1
- Calibration foil set 1
- Pocket case 1
- Instruction manual 1
- Carrying case 1

Features:

- Integrated probe F
- Magnetic induction measuring principle
- Any non-magnetic coating on ferrous substrates
- Measurement modes: continous/single
- Automaticly shut-off
- Automatic calculation : mean/max. /min/no./S.Dev

Specification	
Measuring Range (µm)	0~1250
Resolution (µm)	1
Accuracy (µm)	Zero-Point Calibration ±(3%H+1)
(H=Nominal Value) (µm)	Two Point Calibration ±(1%~3%H+1)
Statistics	Average (MEAN), Max., Min., Number of Measurements (NO)., Standard Deviation (S.Dev)
Sample (mm)	Min. Radius Workpiece: Convex 1.5 Min. Measuring Area : 7 Diameter Min. Sample Thickness: 0.5
Operating Temperature (˚c)	0~40
Power Supply (v)	NiMH Battery 3.6
Dimensions (mm)	150 x 53 x 22
Weight (gr)	150

Order No.	Type	Description
KW0600329	KW06-329	Coating Thickness Gauge Ferrous

Coating Thickness Gauge Non Ferrous

NON FERROUS

Accessories:

- Charger 1
- Calibration foil set 1
- Pocket case 1
- Instruction manual 1
- Carrying case 1

Features:

- Integrated probe N
- Eddy current measuring principle
- Any insulating coating on non-ferrous conductible substrates
- Measurement modes: continuous /single
- Automatic calculation: mean/max. ./min./no./s.dev
- Automatic shut off

Specification	
Measuring Range (µm)	0~1250
Resolution (µm)	1
Accuracy (µm)	Zero-Point Calibration ±(3%H+1.5)
(H=Nominal Value) (µm)	Two Point Calibration ±(1%~3%H+1)
Statistics	Average (MEAN), Max., Min., Number of Measurements (NO)., Standard Deviation (S.Dev)
Sample (mm)	Min. Radius Workpiece: Convex 3.0 Min. Measuring Area : 5 Diameter Min. Sample Thickness: 0.3
Operating Temperature (˚c)	0~40
Power Supply (v)	NiMH Battery 3.6
Dimensions (mm)	150 x 53 x 22
Weight (gr)	150

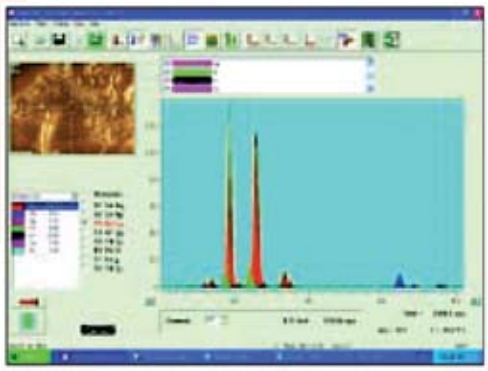
Order No.	Type	Description
KW0600330	KW06-330	Coating Thickness Gauge Non Ferrous

FISCHERSCOPE X-RAY XAN

Fischer scope x ray xan is an equipment to analize content of material in units of percentage.

Features :

- It can use to analyzed material with metode of Non Destructive test
- Has a Compact Design resulting in small footprint
- The Measuring head contains all mechanical and electronic component required for x-ray fluorescence analysis
- Communication with the control and evaluation computer is carried out via a standard RS 232 interface



Result spectrum of a gold analysis

Technical Specification	
Detector	Semiconductor with Peltier Cooling (-30°C (-34,4°F)), Energi Resolution 200 eV
Analysis Range	From Al (z= 13) To U (Z = 92)
Motor Driven Collimator Setting	Four Round Collimators with Diameter of 0,2, 0,6, 1, and 2mm
Power Connection	110 v / 230 v, 300 W

Order No.	Type	Description
FIZ000002	-	Fischer Scope X Ray Xan

POROTEST 7

ElektroPhysik

Is an Equipment for Detection of pinholes and flaws in insulating coating like : Paint, Plastics and enamel

Features :

- Low-energy, therefore safe, high voltage
- High voltage generation in the test head
- Two test head versions with test voltsges ranges: 0.3 to 3kV and 2.5 to 25 kV can be connected
- Extensive electrode selection
- Continuously adjustable test voltage
- Display of the test voltage that is present directly at the electrode

Technical Data	
Test Voltage (Continuously Adjustable Range):	Test Head HV3PK: 0.3 ... 3 kVDC Test Head HV20PK: 2.5 ... 25 kVDC
Test Voltage Display Error:	< 5%
Environmental Conditions During Operation:	0 ... +40°C (32 ... +104°F) and 0 ... 60% RH, No Condensation
On Test Surface	
Storage Temperature:	0 ... +60°C (32 ... +140°F)
Standards:	
Instrument Safety	VDE 0411/1
Pasture Fence Ordinance	
Test:	DIN 55670, DIN 28055-2, DIN 4753-3

Order No.	Description
EV0000025	80-440-0002 Porotest 7 Basic Unit
EV0000049	80-441-0002 P7 Hightension Electrodes F/Porotest 7

Kawan Lama #1 Commercial & Industrial Supply Company

MOISTURE TESTER

KRISBOW

Wood Moisture Tester

Low battery indicator.
Auto power off

Application :
Can use in Furniture industry and forestry.

Specification	
Measuring Mode	Pin and Pinless
Specification	Wood Over 150 Species
Measuring Range	0-80%
Resolution	0.1
Display	LCD
Accuracy	0.05%
Power Supply	4 x 1.5V AAA Battery
Dimension (mm)	165x62x26
Weight (gr)	175

Order No.	Type	Description
KW0600405	**KW06-405**	Wood Moisture Tester

Grain Moisture Tester

Low battery indicator.
Auto power off

Application :
Can use in food industry and farm.

Specification	Grain Over 50 Species
Measuring Range	6~30% Varies for Different Grains
Resolution	0.1
Accuracy	± 0.05%
Power Supply	4 x 1.5V AAA Battery
Dimension (mm)	165x62x26
Weight (gr)	320

Order No.	Type	Description
KW0600404	KW06-404	Grain Moisture Tester

MOISTURE DETERMINATION BALANCE

FD-610

Made in Japan

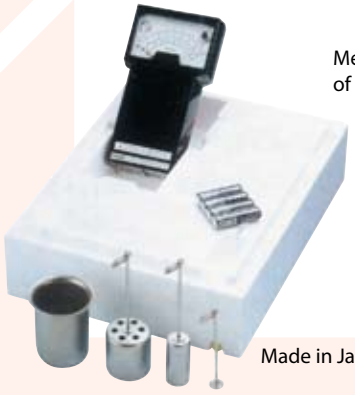
The FD-610 is a digital infrared moisture tester. Operating keys have been kept to a minimum order to improve operability. In addition the FD-610 provides features such as optionalweight sampling, auto tare subracting, high contrast displaying, etc. The semisealed drying chamber reduces the effects of outside air and helps to improve drying efficiency by skillfully controlling convection caused by heating.

Specification	
Model	**FD-610**
Measured Method	Heated Drying Weight Measurement Method
Sample Weight (g)	5 ~ 70 (Optional Weight Sampling)
Weight Reading Unit (mg)	5
Measure Range (%)	0.0 ~ 100 (Moisture Content)
Accuracy (%)	± 0.1 (5g or More)
Display Format	LCD display
Heat Source	185w Infrared Lamp x 1
Dimension (WxDxH mm))	210 x 320 x 318
Weight (kg)	3
Power	AC100 ~ 240V, 50 / 60Hz

GOTECH

VISCOMETER *HG/T3323*

VT-03F/VT-04F



Measure the viscocity of chemical.

Made in Japan

Specification		
Model	VT-03F	VT-04F
Test Range	2~33, 15~150, 50~300mpa.s	0.3~13, 3~150, 100~4000dpa.s
Rotating Speed (rpm)	62.5	
Weight (gr)	570	
Power	AC/DC Available 1.5V x 4/400mA	

Order No.	Type	Description
KH0000271	**VT-03F**	Viscometer
KH0000187	**VT-04F**	Viscometer

ULTRASONIC THICKNESS GAUGE

Kawatetsu Advantech Co.,Ltd

TI – 45C
TI – 45B
TI – 45N

Features :

- Resolution of 0.01mm
- Extremely compact and lightweight
- Switch-selectable units - mm or inches
- Built-in calibration test plate
- Quick display update with last reading retained on the display
- Display symbols alert user to poor coupling and low battery conditions

TI – 45 C	
Measuring Range	0.50 – 19.00mm
In Steel and Pipe Dia	Φ 8.0 X Thickness 0.8mm or More
Resolution Accuracy	± 0.03mm
Probe	10Z6NDT-A (10MHz)
Diameter	Φ 7.5mm
Display	4 2/1 – Digit Lcd Display, Light With Push Button Illumination
Display Resolution	0.01mm
Velocity Range	1,000m – 1,2000m/s
Cable	1m Long Cable With Locking, Quick Removqble Connections
Battery	One AA Battery
Calibration Plate	5.00mm Steel Plate, Built-Into The Front Oh The Housing
Size	69 (W) X 144 (H) X 30 (T) (mm)
Weight	Gauge 200g, Probe 50g
Temperature	-5°C-50°C (Ambient • Materials)
Warranty	Gauge : 1 Year, Probe: 6 Months

Order No	Type	Description
KE 0000030	-	TI 40 N / TI 45 N Ultra Sonic Thick Indicator
KE 0000040	-	TI 45 C Ultra Sonic Thick Gauge

TI – 45 N	
Measuring Range	1.00-199.99mm
In Steel and Pipe Dia	Φ30.0 X Thickness 1.50mm or More
Resolution Accuracy	±0.05mm or ±0.2% rdg
Probe	5Z10NDT-M (5MHz)
Diameter	Φ 13.0mm
Display	4 2/1 – Digit LCD Display, Light With Push Button Illumination
Display Resolution	0.01mm
Velocity Range	1,000m – 1,2000m/s
Cable	1m Long Cable with Locking, Quick Removable Connections
Battery	One AABattery
Calibration Plate	5.00mm Steel Plate, Built-Into The Front of The Housing
Size	69 (W) X 144 (H) X 30 (T) (mm)
Weight	Gauge 200g, Probe 50g
Temperature	-5°C – 50°C (Ambient • Materials)
Warranty	Gauge:1 Year, Probe: 6 Months

TI – 45B	
Measuring Range	0.40 – 15.00mm
In Steel and Pipe Dia	Φ10.5 X Thickness 1.25mm or More
Resolution Accuracy	± 0.03mm
Probe	10Z10NDT-B (10MHz)
Diameter	Φ 13.0mm
Display	4 2/1 – Digit LCD Display, Light With Push Button Illumination
Display Resolution	0.01mm
Velocity Range	1,000m – 1,2000m/s
Cable	1m long Cable With Locking, Quick Removable Connections
Battery	One AA Battery
Calibration Plate	5.00mm Steel Plate, Built Into Nthe Front Of The Housing
Size	69 (W) X 144 (H) X 30 (T) (mm)
Weight	Gauge 200 g, Probe 50 g
Temperature	-5°C – 50°C (Ambient • Materials)
Warranty	Gauge: 1 year, probe: 6 months

MINI TEST FH-7200

ElektroPhysik

Mini Test 7200

Minitest FH 7200 is an equipment to measure thickness of non metal material for example : bottle, glass, etc

Features :

- On non ferrous Materials
- Measure Up to 10mm thick
- Ideal for Bottles, Aluminium cans, Glass and Plastic Component with Complex Strapes.
- Menu Controlled User Interface
- Content - Sensitive on - line Help
- SPC Capabilities
- High Accuracy

Specification	
Measuring Range FH4 (mm)	0 - 1,5 with 1,5 Reference Ball 0 - 2,5 with 2,5 Reference Ball 0 - 4,0 with 4,0 Reference Ball
Low range Resolution (µm)	0,01
Data Memory	240.000 Values
Interfaces	RS 232 TTL + IrDA 1.0
Operating Temperature (°C)	- 10 to 60
Dimension/Weight (mm/gr)	153 x 89 x 32/310
Power Supply	4 x AA (LR06) Batteries

Order No.	Description
EV0000022	80-177-0300 FH7200 Minitest w/o Probe
EV0000020	80-174-0000 FH4 Probe

ULTRASONIC THICKNESS GAUGE

KRISBOW

Ultrasonic Thickness Gauge

Specification	
Measuring Range (steel)(mm)	1.2 - 225.0 with 5MHz Tansducer
Measuring Range for Steel Pipes (mm)	Min.3.0 Thickness x 20 Diameter
Transducer Frequency (mm)	Standar 5MHz, 10
Display Resolution (mm)	0.1
Calibration (mm)	4.0mm Steel Base Integrated
Measurement Accuracy (mm)	±(1%H + 0.1)
Measuring Units	mm/inch
Sound Velocity Range (m/s)	000-9999
Display	4-Digital LCD with Backlight
Memory	Storage 0f 10 Thickness Readings
Surface Temperature (°C)	-10 + 60
Battery Indicator	Low Battery Voltage Indicator
Power Supply (V)	2 pcs. AA Batteries 1.5
Operation Time	250 Hours
Dimensions (mm)	126 x 68 x 23
Weight	Approx.250gr Including Batteries

Features:
- Suitable for all metallic and non-metallic materials
- Two standard 5 MHz transduces included
- Sound velocity range up to 9999m/s
- Clear 4-digit LCD display with backlight
- Display resolution 0.1mm
- Memory for 10 readings
- 5 pre-set sound velocities for repeating applications
- mm/inch selectable

Benefit:
- Easy to operate ultrasonic thickness gauge

Order No.	Type	Description
KW0600214	**KW06-214**	Ultrasonic Thickness Gauge

OPTIONAL TRANDUCERS

Probe	Frequency (MHz)	Measuring Range (Steel) (mm)	Diameter Ø (mm)	Measurement for Steel Pipe Size (mm)	Characteristic
5p Ø 10	5	1.2 - 225	10	Ø20 x 3	Standard
5pØ10/90	5	1.2 - 225	10	Ø20 x 3	Standard
SZ2.5p	2.5	3 - 300	14	-	Thick Material/Rough Surface
7pØ6	7	0.75 - 60	6	Ø15 x 2	Thin Material

TABLE OF SOUND VELOCITY OF VARIOUS MATERIALS

Material	Aluminium	Iron	Copper	Brass	Zinc	Silver	Gold	Tin
Sound Velocity (m/s)	6320	5900	4700	4430	4170	3600	3240	3320

XS, PB

GOTECH

Electronic Balance/Density Determination Kit

Made in Swiss

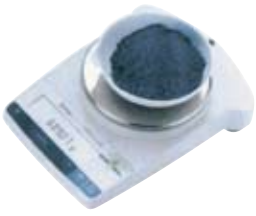
These precision balances are the most popular models in the fields for their equipping with the features / functions such as the over-load indicating, various measurement units, quantity counting, direct reading for density (only for XS), easy operation...etc.

XS 125 A

XS 365 M

XS 3250 C

PB 153-S/FACT
PB 303-S/FACT



PB 602-S

Order No.	Type	Description
KH000003	**XS 125A**	Electronic Balance/Density Determination Kit
KH000004	**XS 365 M**	Electronic Balance/Density Determination Kit
KH000005	**XS 3250 C**	Electronic Balance/Density Determination Kit

Order No.	Type	Description
KH000006	**PB 153-S/FACT**	Electronic Balance
KH000007	**PB 303-S/FACT**	Electronic Balance
KH000008	**PB 303-S/FACT**	Electronic Balance

STANDARD MODEL

▶ *ZP*

Applications :
- Measure the strength of electronic parts bonding or soldering
- Measure of contact press of touch panel or keyboard
- Measure push/pull force of connector pin or slide cap
- Pull testing for pull top can or noodle container lid

Specification				
Model	**Capacity**	**Display**	**Resolution**	**Measuring Shaft**
ZP-2N	2N(200gf)	2.000N (200.0gf)	0.001N(0.1gf)	M6
ZP-5N	5N(500gf)	5.000N (500.0gf)	0.001N(0.1gf)	M6
ZP-20N	20N(2kgf)	20.00N (2.000kgf)	0.01N(0.001kgf)	M6
ZP-50N	50N(5kgf)	50.00N (5.000kgf)	0.01N(0.001kgf)	M6
ZP-100N	100N(10kgf)	100.0N (10.00kgf)	0.1N(0.01kgf)	M6
ZP-200N	200N(20kgf)	200.0N (20.00kgf)	0.1N(0.01kgf)	M6
ZP-500N	500N(50kgf)	500.0N (50.00kgf)	0.1N(0.01kgf)	M6
ZP-1000N	1000N(100kgf)	1000N (100.0kgf)	1N(0.1kgf)	M6

Order No.	Type	Description
IA0000001	**ZP-2N**	Standard Model
IA0000046	**ZP-5N**	Standard Model
IA0000002	**ZP-20N**	Standard Model
IA0000017	**ZP-50N**	Standard Model
IA0000066	**ZP-100N**	Standard Model
IA0000024	**ZP-200N**	Standard Model
IA0000025	**ZP-500N**	Standard Model
IA0000003	**ZP-1000N**	Standard Model

POPULAR MODEL

IMADA

▶ *DS2*

Applications :
- Measure tensile and compressive force
- Measure strength of electronic parts measurement, etc
- Measure strength packaging seals, etc
- Measure insertion/removal force of connectors and slide caps.

Specification				
Model	**Capacity**	**Display**	**Resolution**	**Measuring Shaft**
DS-2N	2N(200gf)	2.000N (200.0gf)	0.001N(0.1gf)	M6
DS-5N	5N(500gf)	5.000N (500.0gf)	0.001N(0.1gf)	M6
DS-20N	20N(2kgf)	20.00N (2.000kgf)	0.01N(0.001kgf)	M6
DS-50N	50N(5kgf)	50.00N (5.000kgf)	0.01N(0.001kgf)	M6
DS-200N	200N(20kgf)	200.0N (10.00kgf)	0.1N(0.01kgf)	M6
DS-500N	500N(50kgf)	500.0N (50.00kgf)	0.1N(0.01kgf)	M6
DS-1000N	1000N(100kgf)	1000N (100.0kgf)	1N(0.1kgf)	M6

Order No.	Type	Description
IA0000004	**DS-2N**	Standard Model
IA0000005	**DS-5N**	Standard Model
IA0000006	**DS-20N**	Standard Model
IA0000056	**DS-50N**	Standard Model
IA0000055	**DS-200N**	Standard Model
IA0000054	**DS-500N**	Standard Model
IA0000053	**DS-1000N**	Standard Model

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HIGH CAPACITY STANDARD MODEL

▶ *ZPH*

Applications :
- Strength test for various materials (tension test, compression test, shearing test, etc)
- Measure attraction/ repulsion force of solenoid or magnet
- Adhesion test for laminated tubes

Specification				
Model	**Capacity (N(kgf))**	**Display (N(kgf))**	**Resolution (N(kgf))**	**Measuring Shaft**
ZPH-1000N	1000 (100)	1000 (100.0)	1 (0.1)	M10
ZPH-2000N	2000 (200)	2000 (200.0)	1 (0.1)	M10
ZPH-5000N	5000 (500)	5000 (500.0)	1 (0.1)	M10

Order No.	Type	Description
IA0000007	**ZPH-1000N**	Standard Model
IA0000008	**ZPH-2000N**	Standard Model
IA0000009	**ZPH-5000N**	Standard Model

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SEPARATE SENSOR MODEL

ZPS

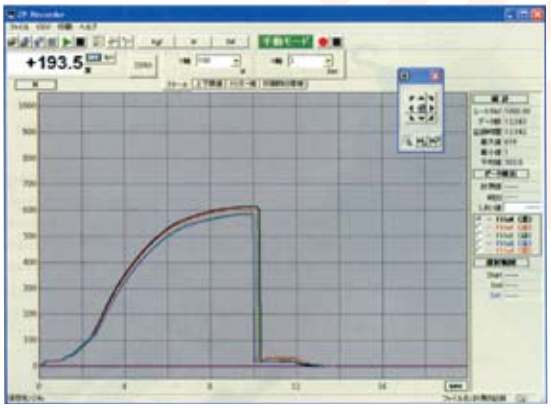
This is a force gauge display unit connected to external load cell.
For the use of limitation and dangerous area, this model is suitable.
This gauge is available with various shape and wide range of load cells.
ZPS series has USB output function.

Order No.	Type	Description
IA000010	ZPS-DPU-2N	Separate Sensor Model
IA000011	ZPS-DPU-5N	Separate Sensor Model
IA000012	ZPS-DPU-20N	Separate Sensor Model
IA000013	ZPS-DPU-50N	Separate Sensor Model
IA000014	ZPS-DPU-100N	Separate Sensor Model
IA000015	ZPS-DPU-200N	Separate Sensor Model
IA000016	ZPS-DPU-500N	Separate Sensor Model
IA000017	ZPS-DPU-1000N	Separate Sensor Model
IA000018	ZPS-DPU-2000N	Separate Sensor Model
IA000019	ZPS-DPU-5000N	Separate Sensor Model
IA000020	ZPS-DPU-10KN	Separate Sensor Model
IA000021	ZPS-DPU-20KN	Separate Sensor Model

Specification				
Model	Capacity	Display	Resolution	Measuring Shaft
ZPS-DPU-2N	2N(200gf)	2.000N (200.0gf)	0.001N (0.1gf)	M6
ZPS-DPU-5N	5N(500gf)	5.000N (500.0gf)	0.001N (0.1gf)	M6
ZPS-DPU-20N	20N(2kgf)	20.00N (2.000kgf)	0.01N (0.001kgf)	M6
ZPS-DPU-50N	50N(5kgf)	50.00N (5.000kgf)	0.01N (0.001kgf)	M6
ZPS-DPU-100N	100N(10kgf)	100.0N (10.00kgf)	0.1N (0.01kgf)	M6
ZPS-DPU-200N	200N(20kgf)	200.0N (20.00kgf)	0.1N (0.01kgf)	M6
ZPS-DPU-500N	500N(50kgf)	500.0N (50.00kgf)	0.1N (0.01kgf)	M6
ZPS-DPU-1000N	1000N(100kgf)	1000N (100.0kgf)	1N (0.1kgf)	M10
ZPS-DPU-2000N	2000N(200kgf)	2000N (200.0kgf)	1N (0.1kgf)	M10
ZPS-DPU-5000N	5000N(500kgf)	5000N (500.0kgf)	1N (0.1kgf)	M10
ZPS-DPU-10KN	10kN(1000kgf)	10.00kN (1000kgf)	0.01kN (1kgf)	Female screw
ZPS-DPU-20KN	20kN(2000kgf)	20.00kN (2000kgf)	0.01kN (1kgf)	Female screw

SOFTWARE FOR USB MODEL

ZP-Recorder-E



Data analysis for ZP - Series

ZP-Recorder is a software for managing and analyzing measuring data.
High-speed sampling is possible by USB connection.
The comparison analyzis of a max. imum of four graph is possible.

- Sampling: maximum 1000 times/sec
- Function: graphic chart, average value
- Save as: .fce, .csv format
- Available gauges: ZP series (USB output)

[Operating environment]

- Microsoft windows 98SE/2000/XP
- Microsoft net framework 1.1 or later (included)

SOFTWARE FOR RS232C CONNECTION

ZLINK3.0-E

Data analysis for RS-232 output

ZLINK is a software for managing and analyzing measuring data.
ZLINK 3 has function of making graph and managing peak value.
This software provides high usabillity and efficient work of data processing.

- Sampling : maximum 10 times/sec
- Function : graphic chart, average value
- Save as : .bmp, .csv format

Available gauges: DS2/HTG2/DTX2 series

[Operating environment]

- Microsoft windows 98SE/2000/NT/XP
- Microsoft .net framework 1.1 or later (included)

POPULAR MODEL

IMADA

▶ *FB/FS*

Applications :
- Measure the contact pressure of touch panel or keyboard
- Measure the of the bonding strength of adhesive tapes and the peel strength of adhesive sheets

Order No.	Type	Description	Capacity	Resolution
IA0000036	FB-10N	Mechanical Push Pull 10N	10N	0.1N
IA0000022	FB-20N	Mechanical Push Pull 20N	20N	0.2N
IA0000014	FB-30N	Mechanical Push Pull 30N	30N	0.25N
IA0000035	FB-50N	Mechanical Push Pull 50N	50N	0.5N
IA0000023	FB-100N	Mechanical Push Pull 100N	100N	1N
IA0000024	FB-200N	Mechanical Push Pull 200N	200N	2N
IA0000025	FB-300N	Mechanical Push Pull 300N	300N	2.5N
IA0000034	FB-500N	Mechanical Push Pull 500N	500N	5N
IA0000001	FS-1K	Mechanical Push Pull 1K	1kgf	10gf
IA0000010	FS-2K	Mechanical Push Pull 2K	2kgf	20gf
IA0000008	FS-3K	Mechanical Push Pull 3K	3kgf	25gf
IA0000002	FB-5K	Mechanical Push Pull 5K	5kgf	50gf
IA0000003	FB-10K	Mechanical Push Pull 10K	10kgf	100gf
IA0000004	FB-20K	Mechanical Push Pull 20K	20kgf	200gf
IA0000005	FB-30K	Mechanical Push Pull 30K	30kgf	250gf
IA0000006	FB-50K	Mechanical Push Pull 50K	50kgf	500gf
IA0000026	FB-5lb	Mechanical Push Pull 5 Lbs	5lb	0.05lb
IA0000027	FB-10lb	Mechanical Push Pull 10 Lbs	10lb	0.1lb
IA0000028	FB-20lb	Mechanical Push Pull 20 Lbs	20lb	0.2lb
IA0000029	FB-30lb	Mechanical Push Pull 30 Lbs	30lb	0.25lb
IA0000069	FB-50lb	Mechanical Push Pull 50 Lbs	50lb	0.5lb
IA0000030	FB-100lb	Mechanical Push Pull 100 Lbs	100lb	1lb

AUTOMATIC/MANUAL OPERATION

▶ *MX-500N*

Motorized Test Stand

Applications :
Supporting device for Imada force gauge

Standard Function:
- Single/continuous cycle function
- Fix speed/adjustable speed mode select
- Overload brake (work with Z series)
- Force control mode (work with Z series)

Order No.	Type	Description
IA0000026	MX-500N	Automatic/Manual Operation

Specifications:
- Capacity : 500N (50kgf)
- Stroke : 235mm
- Speed : 10 ~ 300mm/min non step adjustable
- Power supply : AC 100 ~ 240V
- Safety feature : Upper/lower limit, emergency button
- Weight : approx. 13 kg
- Dimension (WxDxH) : 214 x 428 x 573mm

Optional function:
- Speed/length meter (-E)
- Timer unit (-TM)
- Digimatic length meter (-S)
- Extended stroke (-L550)
- Another speed range

AUTOMATIC/MANUAL OPERATION

▶ *MX-1000N*

Motorized Test Stands

Application:
Supporting device for Imada force gauge

Standard Function:
- Single/continuous cycle function
- Fix speed/adjustable speed mode select
- Overload brake (work with Z series)
- Force control mode (work with Z series)

Order No.	Type	Description
IA0000016	MX-1000N	Automatic/Manual Operation

Specification:
- Capacity : 1000N (100kgf)
- Stroke : 410mm
- Speed : 8 ~ 240mm/min non step adjustable
- Power supply : AC 100 ~ 240V
- Safety feature : Upper/lower limit, emergency button
- Weight : approx. 24kg
- Dimension (WxDxH) : 263 x 368 x 903mm

Optional function:
- Speed/length meter (-E)
- Timer unit (-TM)
- Digimatic length meter (-S)
- Extended stroke (-L650)
- Another speed range

MANUAL HAND WHEEL OPERATION TEST STAND

▶ *HV-500N II*

Manual Test Stands

Application :
Supporting device for Imada force gauge

Optional functions:
- Digimatic length meter (-S)
- Extended stroke (-L550)

Standard Functions:
- Capacity : 500N (50kgf)
- Stroke : 240mm
- 2mm/one complete turn of hand wheel
- With screw stopper
- Weight : Approx. 10kg
- Dimension (WxDxH) 327 x 309 x 598cm

Order No.	Type	Description
IA0000040	HV-500N II	Manual Hand Wheel Operation Test Stand

Kawan Lama #1 Commercial & Industrial Supply Company

ATTACHMENT FOR COMPRESSION TEST

PC-5040/5060/5100 Disc Compression Jig

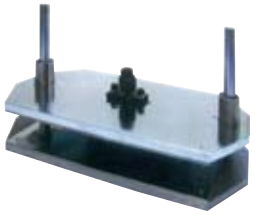
Compression test of plastic bottle

PC series

Specification			
Model	PC-5040	PC-5060	PC-5100
Capacity (N(kgf))	5000 (500)	5000 (500)	5000 (500)
Outer Diameter (mm)	Ø 40	Ø 60	Ø 100
Weight (gr)	Approx. 160	Approx. 330	Approx. 820
Screw	M10	M10	M10

Order No.	Type	Description
IA0000031	**PC-5040**	Disc Compression Jig
IA0000032	**PC-5060**	Disc Compression Jig
IA0000031	**PC-5100**	Disc Compression Jig

PR-2000 Attachment for Burst Strength Test



Burst strength test of tube

Specification	
Capacity (N(kgf))	2000 (200)
Opening Space (WxDxH) (mm)	260 x 170 x 100(75)
Recommendation Combination	Motorized Test Stand: MX-2000N-TM
	Digital Force Gauge: ZPH/Z2H-2000N, and PR-2000
Weight (kg)	Total: approx. 9.5, upper: approx. 4.5
Screw	M10

Order No.	Type	Description
IA0000033	**PR-2000**	Attachment for Burst Strength Test

ATTACHMENT FOR TENSION TEST

GC-1100/1200/5000 Flat Chuck

GC-1100

Extraction test of connector

Specification			
Model	GC-1100	GC-1200	GC-5000
Capacity (N(kgf))	1000 (100)	1000 (100)	5000 (500)
Jaw Face Width (mm)	20	20	29
Opening Width (mm)	Max. . 10	Max. . 20	Max. . 30
Weight (gr)	Approx. 160	Approx. 170	Approx. 1400
Screw	M6	M6	M6

Order No.	Type	Description
IA0000015	**GC-1100**	Flat Chuck
IA0000034	**GC-1200**	Flat Chuck
IA0000035	**GC-5000**	Flat Chuck

FW-12 Rotary Wire Terminal Fixture

Wire harness strength test

Specification	
Capacity	1000N (100kgf)
Number of Slit	12
Weight (gr)	Approx. 380
Screw	M6

Order No.	Type	Description
IA0000036	**FW-12**	Rotary Wire Terminal Fixture

GP-30 Knurled Cam Grips

Wire harness strength test

Specification	
Capacity	1000N (100kgf)
Jaw face width	Max. 30mm
Opening width	Max. 10mm
Weight (gr)	Approx. 880
Fixing to test stand	M8 bolts (x2)

Order No.	Type	Description
IA0000037	**GP-30**	Knurled Cam Grips

FC-21/20/40/21U/41U/21UQ Film Grips

180° peel strength test

FC-20

FC21UQ

Specification						
Model	FC-21	FC-20	FC-40	FC-21U	FC-41U	FC-21UQ
Capacity (N(kgf))	250 (25)	500 (50)	500 (50)	250 (25)	250 (25)	250 (25)
Jaw Face Width	20mm	20mm	40mm	20mm	40mm	20mm
Opening Width	Max. . 2mm	Max. . 2mm	Max. . 2mm	Max. . 2mm	Max. . 2mm	Max. . 1mm
Weight	Approx. 25g	Approx. 73g	Approx. 125g	Approx. 40g	Approx. 70g	Approx. 50g
Screw	M6	M6	M6	M6	M6	M6

Order No.	Type	Description
IA0000047	**FC-21**	Film Grips
IA0000032	**FC-20**	Film Grips
IA0000045	**FC-40**	Film Grips

Order No.	Type	Description
IA0000076	**FC-21U**	Film Grips
	FC-41U	Film Grips
	FC-21UQ	Film Grips

KC-100/1001/5000, PGC-0510 Wedge Grips, Pantograph Grips

Electric wire strength test

KC-100

KC-1001

PGC-0510

Specification				
Model	KC-100	KC-1001	KC-5000	PGC-0510
Capacity	500N(50kgf)	1000N(100kgf)	5000N(500kgf)	500N(50kgf)
Opening Width	Maximum 10mm	Maximum 2mm	Maximum 5mm	Maximum 15mm
Weight	Approx. 330g	Approx. 95g	Approx. 565g	Approx. 110g
Screw	M6	M6	M10	Hook Formula

Order No.	Type	Description
IA0000038	**KC-100**	Wedge Grips, Pantograph Grips
IA0000029	**KC-1001**	Wedge Grips, Pantograph Grips
IA0000039	**KC-5000**	Wedge Grips, Pantograph Grips
IA0000040	**PGC-0510**	Wedge Grips, Pantograph Grips

HAND HELD TORQUE GAUGE

IMADA

HTG2

For torque of screws or torsion strength measurement

Accuracy	: ±0.5% F.S. ±1digit Display 4 digit LCD
Measuring units	: N-m, kg-m or gf-m, lbf-in selectable
Sampling Rate	: 1000 times per second or more
Overload capacity	: 150% of F.S. (overload warning 110% of F.S. and alarm)
Tips	: ø0.5~6.5mm Pin Chuck (Standard Model)
Weight	: Sensor = Approx. 530g
Dimension	: Sensor = L194 x ø39mm, Cable = Approx. 350mm
Included	: AC adapter, carrying case, Instruction manual, inspection certificate

Specification			
Model	**Capacity**	**Display**	**Resolution**
HTG2-2N	2N-m(200gf-m)	2.000N-m(200.0gf-m)	0.001N-m(0.1gf-m)
HTG2-5N	5N-m((500gf-m)	5.000N-m(500.0gf-m)	0.001N-m(0.1gf-m)
HTG2-10N	10N-m(1.000kgf-m)	10.00N-m(1.000kgf-m)	0.01N-m(0.001kgf-m)
HTG2-200Nc	200N-cm((20.00kgf-cm)	200.0N-cm(20.00kgf-cm)	0.1N-cm(0.01kgf-cm)
HTG2-500Nc	500N-cm(50.00kgf-cm)	500.0N-cm(50.00kgf-cm)	0.1N-cm(0.01kgf-cm)
HTG2-1000Nc	1000N-cm(100.0kgf-cm)	1000N-cm(100.0kgf-cm)	1N-cm(0.1kgf-cm)

HGT2-10N, 1000Nc included handles

(TA-)00 Standard Pin Chuck ø0.5 ~ 6.5mm

(TA-)01 9.5□ Torque Wrench

(TA-)02 Torque Driver

(TA-)03 Large Pin Chuck ø1.2 ~ 13mm

Order No.	Type	Description
IA0000041	**HTG2-2N**	Hand Held Torque Gauge
IA0000042	**HTG2-5N**	Hand Held Torque Gauge
IA0000043	**HTG2-10N**	Hand Held Torque Gauge
IA0000062	**HTG2-200Nc**	Hand Held Torque Gauge
IA0000044	**HTG2-500Nc**	Hand Held Torque Gauge
IA0000045	**HTG2-1000Nc**	Hand Held Torque Gauge

* TA-01-03 are available as option. Please add {-1}, {-2}, or to the end of medel.
* HTG2 - 10N, HTG2 - 1000Nc includes handles.
* USB model is also available as customized.

SCREW-CAP TESTER

DTX2

For the torque measurement of the screw-caps, cosmetic, food and beverage containers

Accuracy	: ±0.5% F.S. ±1digit Display 4 digit LCD
Measuring units	: N-m, kg-m or gf-m, lbf-in selectable
Sampling Rate	: 1000 times per second or more
Display update	: 10 times per second
Sample diameter	: ø20 ~ ø180mm
Functions	: Memory, Comparator, Peak hold
Output	: Same as Z2 series
Overload capacity	: 150% of F.S. (overload warning 110% of F.S. and alarm
Operating temperature	: 0~+40°C
Power supply	: DTX2-A = AC100 to 240V, DTX2-B = NIMH rechargeable batteries, AC adapter
Weight	: Approx. 4.5kg
Dimension	: W210 x D324 x H164mm

Order No.	Type	Description
IA0000052	**DTX2-2N-A(B)**	Screw-Cap Tester
IA0000028	**DTX2-5N-A(B)**	Screw-Cap Tester
IA0000046	**DTX2-10N-A(B)**	Screw-Cap Tester
IA0000030	**DTX2-200Nc-A(B)**	Screw-Cap Tester
IA0000047	**DTX2-500Nc-A(B)**	Screw-Cap Tester
IA0000048	**DTX2-1000Nc-A(B)**	Screw-Cap Tester

Specification			
Model	**Capacity**	**Display**	**Resolution**
DTX2-2N-A(B)	2N-m(200gf-m)	2.000N-m(200.0gf-m)	0.001N-m(0.1gf-m)
DTX2-5N-A(B)	5N-m((500gf-m)	5.000N-m(500.0gf-m)	0.001N-m(0.1gf-m)
DTX2-10N-A(B)	10N-m(1.000kgf-m)	10.00N-m(1.000kgf-m)	0.01N-m(0.001kgf-m)
DTX2-200Nc-A(B)	200N-cm((20.00kgf-cm)	200.0N-cm(20.00kgf-cm)	0.1N-cm(0.01kgf-cm)
DTX2-500Nc-A(B)	500N-cm(50.00kgf-cm)	500.0N-cm(50.00kgf-cm)	0.1N-cm(0.01kgf-cm)
DTX2-1000Nc-A(B)	1000N-cm(100.0kgf-cm)	1000N-cm(100.0kgf-cm)	1N-cm(0.1kgf-cm)

Kawan Lama #1 Commercial & Industrial Supply Company

Mtg Series

Item	Contents	
Unit	N-m or N-cm	
Display	Sensor	4 digits LCD with Sign. Unit. Mode. Warning LED Comparator LED
	Information	16 letters x 2 rows
Measuring Speed	30~90 Degrees/Sec	
Display Update	10 Times/Sec	
Capacity	Approx. 150% of the Max. Range. (LED Blinks Buzzer Works When The Torque Exceeds 110% of The Range)	
Sampling Speed	1000 Times/Sec	
Sample Diameter	Cap	Diameter 20~90mm
Height of Sample	Table	Diameter 20~180mm
		80~240mm
Accuracy	-0.5%~+0.5% Full Scale., -1~+1 Digit	
Condition	0~+40 Degrees Celsius, 20~80 %RH	
Power	AC100V~240V Free Input	
Output	USB, Serial(RS232C), Analog (Approx. -2~+2V)	
External Input Terminal	Zero Clear, Peak/ Track Changeable, Memory/Data Output	
Mode	Normal	Turns to One Way, Stops by Stop Button.
	*NG stop	Stops When The Torque Exceeds The Set Value With Comparator Function
	Endurance test	Repeats The Operation With Comparator Function. (It Counts The Operation.)
Weight	Approx. 17kg	

Pull Test | Keyboard Contact Pressure | Adhesive Test | Peeling Test | Bending Test | Compression Test | Peeling Test | Screw-Cap Test

CORD BENDING TESTER

GOTECH

GT-7062-A

Fix appliance (plug, hair dryer, Vacuum cleaners,..ect.

Specification	
Rotary Plate	ø 500mm, Thickness 10mm
Weight	300g, 500g
Bending Speed	10 ~ 40 Times/Min. adjustable
Bending Angle	45°, 60°, 90° Each left and right side 45°, 60°, 90° (adjustable
Counter	LCD, 0 ~ 999999 digital
Space of Anti-Swing Rod	40mm
Dimension (WxDxH)	85 x 75 x 114cm
Weight	170kg
Power	1ph, AC 220V, 5A

Order No.	Type	Description
KH0000076	**GT-7062-A**	Cord Bending Tester

VIBRATION TESTER

GT-7002

This machine is specially designed to test the vibration-resistance of the finished products or components of electron, electric appliance, automobile, communication,...etc.

GT-7002-A

GT-7002-C

GT-7002-D

Specification				
Model		**GT-7002-A**	**GT-7002-C**	**GT-7002-D**
Vibration Direction		Up/Down, left/right	an Option of Up/Down or Left/Right	
Circulating Period		1 Forth and Back Per Min. 800 ~ 3600, 800 ~ 1500 c.p.m.	1 Forth and Back Per Min. 800 ~ 3600, 800 ~ 1500 c.p.m.	
Vibrating Speed (frequency)		800 ~ 3600 c.p.m. (Adjustable) Other Kinds of Speed Can Be Offered Upon Ordering		1200 c.p.m.
Vibration Range		0 ~ 4mm 1.5mm or 2mm (Adjustable)1.5mm or 2mm Commonly Used		
Load Weight		60 kg 60kg (Other Kinds Of Weight Can Be Offered Upon Ordering)		
Surface of Testing Table		50 x 60 cm 50 x 60cm (Other Kind Of Sizes Can Be Offered Upon Ordering)		
Automotic Timer		0 ~ 6. Two Sets of 0 ~ 6Hours (Adjustable)	0 ~ 6. One Sets of 0 ~ 6Hours (Adjustable)	0 ~ 6. One Sets of 0 ~ 6Hours (Adjustable)
Motor		DC 2 HP 2 2pcs of 2HP DC Steples Speed Motor	DC 2 HP1 1pcs of 2HP DC Steples Speed Motor	AC 1 HP1 1pcs of 2HP AC Fixed Speed Motor
Dimension (WxDxH)	Main Body	120 x 80 x 59cm	70 x 57 x 52cm	70 x 57 x 52cm
	Control Box	53.5 x 40.5 x 135cm		28.5 x 28 x 112cm
Weight (Approx)		620kg	235kg	230kg
Power		1ph, AC 220V, 10A		3ph, AC 220V, 6A

Order No.	Type	Description
KH0000017	**GT-7002-A**	Vibration Tester
KH0000018	**GT-7002-C**	Vibration Tester

Order No.	Type	Description
KH000009	**GT-7002-D**	Vibration Tester

Kawan Lama #1 Commercial & Industrial Supply Company

KEW ANALOGUE CLAMP METER

Model 2002PA

Benefits :

- Can measure large AC current up to 2000A.
- Peak hold function
- 55mm-dia large tear drop shaped jaws

Specification	
AC A	400A(0~400A)
	±1%rdg±3dgt[50/60Hz]
	±2%rdg±3dgt[40Hz~1kHz]
	2000A(0~1500A)
	±1%rdg±3dgt[50/60Hz]
	±3%rdg±3dgt[40Hz~1kHz]
	2000A(1500~2000A)
	±3.0%rdg[50/60Hz]
AC V	40/400/750V
	±1%rdg±2dgt[50/60Hz]
	±1.5%rdg±3dgt[40Hz~1kHz]
DC V	40/400/1000V ±1%rdg±2dgt
Ω	400Ω/4k/40k/400kΩ ±1.5%rdg±2dgt
Countinuity Buzzer	buzzer sounds below 50±35Ω
Output Voltage	400/2000A DC400mV/200mV
Conductor Size (mm)	Ø55 Max.
Safety Standard	IEC61010-1 CAT.III 600V CAT.II 1000V IEC61010-2-031 IEC61010-2-032
Frequency Response	40Hz-1kHz
Withstand Voltage	5550V AC for 1 Minute
Power Source	R6P (AA)(1.5V)x 2
Dimensions (mm)	247(L) x 105(W) x 49(D)
Weight (gr)	470 approx.
Accessories	7107(Test Leads) 8201 (Output Plug) 9094(Carrying Case) R6P(AA) x 2 Instruction Manual
Optional	8004/8008(Multi-Tran) 7014(Output Cord)

Type	Description
MODEL 2002PA	Kew Analogue Clamp Meters

KEW AC/DC DIGITAL CLAMP METER

Model 2003A

Benefits :

- Equipped to measure both AC and DC current with transformer jaws of large diameter
- Can measure AC and DC currents up to 2000A
- Output terminal for connection to recorders
- AC/DC voltage, resistance measurement and continuity functions also available

Specification	
AC A	400A/2000A(0-1000A)
	±1.5%rdg±2dgt[50/60Hz] ±3%rdg±4dgt[40-500Hz] ±5%rdg±4dgt[500Hz-1kHz]
	2000A(1001-2000A)
	±3%rdg±2dgt[50/60Hz]
AC V	400/750V
	±1.5%rdg±2dgt[50/60Hz] ±1.5%rdg±4dgt[40-1kHz]
DC A	400/2000A ±1.5%rdg±2dgt
DC V	400/1000V ±1%rdg±2dgt
Ω	400/4000Ω ±1.5%rdg±2dgt
Countinuity Buzzer (Ω)	buzzer sounds below 50±35
Output Voltage	400/2000A DC400mV/200mV
Conductor Size (mm)	Ø55 Max.
Applicable Standard	IEC61010-1 CAT.III 600V CAT.II 1000V IEC61010-2-031 IE61010-2-032
Frequency Response	40Hz-1kHz
Withstand Voltage	6880V AC for 5 seconds
Power Source	R6P(AA)(1.5V) x2
Dimensions (mm)	250(L) x 105(W) x 49(D)
Weight (gr)	530 approx.
Accessories	7107(Test Leads) 8201(Output Plug) 9094(Carrying Case) R6P(AA) x2 Instruction Manual
Optional	8004/8008(Multi-Tran)(AC only) 7014(Output Cord)

Type	Description
MODEL 2003A	Kew Ac/Dc Digital Clamp Meters

KEW HIGH VOLTAGE INSULATION TESTER

KYORITSU

Model 3123

Specification	
Insulation Resistance	
DC Test Voltage (V)	10000V
Measuring Ranges (Automatic Change)	10GΩ/400GΩ(Autoranging)
First Effective Measuring Ranges (Ω)	0.4-200GΩ
Accuracy	±5%rdg
Other Ranges Accuracy	±10% rdg or 5% of Scale Length
Withstand Voltage	5000V AC for 1 Minute
Power Source	R6P(AA)(1.5V) x 8
Dimensions (mm)	200(L) x 140(W) x 80(D)mm
Weight	1kg approx.
Accessories	7058(Test leads) 9039(Hard Carrying Case) 8019(Pickel type prod) 8020(Adaptor for recorder) R6P(AA) x 8 Instruction Manual
Optional	-

Benefits :

- Dual scales for low and high ranges which change automatically. Colour coded scales for easy reading plus LED's that illuminate in matching colour.
- Drip proof construction.
- Hard carrying case furnished as standard accessory.
- Designed for low power consumption.

Type	Description
Model 3123	Kew High Voltage Insulation Testers

KEW EARTH TESTER

Model 4102A

CE

Specification	
Measurements Ranges	Earth Resistance : 0-12Ω/0-120Ω/0-1200Ω Earth Voltage[50,60Hz] : 0-30V AC
Accuracy	Earth Resistance: ±3% of Full Scale Earth Voltage: ±3% of Full Scale
Overload Protection	Earth Resistance : 276V AC for 10 seconds across 2 of the 3 Terminals Earth Voltage : 276V AC for 1 Minute
Applicable Standard	IEC61010-1 CAT.III 300V Pollution Degree 2 IEC61557
Withstand Voltage	3700V AC for 1 Minute
Power Source	R6P(AA)(1.5V) x 6
Dimensions (mm)	105(L) x 158(W) x 70(D)mm
Weight	600g approx.
Accessories	7095(Test Leads) x 1set(red-20m, Yellow-10m, green-5m) 8032(Auxiliary Earth Spikes) x 1set 7127(Simplified Measurement Probe) x 1set R6P(AA) x 6, Neck Strap, Instruction Manual Carrying Case : 4102A(Soft Case) : 4102A-H(Hard Case)
Optional	7100(Precision Measurement Cord Set)

Benefits :

- The latest circuit design the instrument to operate with the minimum of influence from earth voltage and earth resistance of auxiliary earth spikes
- Dust and drip proof. (designed to IEC 529 IP54)
- Earth resistance value can be read directly from the scale
- Designed to meet IEC61010-1 safety standard
- Capable of measuring earth voltage
- Small and lightweight. Shock resistant new case material
- 2 mA measuring current permits earth resistance tests without tripping earth leakage current breakers in the circuit under test
- Lead wire connection to C and P terminals and proper auxiliary earth resistance can be checked by "OK" lamp is illuminated

Type	Description
Model 4102A	Kew Earth Tester

CLAMP METER

KRISBOW

Clamp Meter, Mini AC autoranging 400A

AUTORANGING

KW06-286 are designed to verify the presence of load current, voltage and resistance, etc.

Features:

- Resolution to 1mA AC Current measurements
- Measures AC current (2A~400A) plus DCV, ACV, resistance, diode, Continuity Test.
- 2000 counts LCD display with backlighting
- Complete with carrying case, test leads, and two (AAA) 1.5V batteries
- Dimensions: 205 x 70 x 37mm
- Weight: 200gr

Specifications		
Function	**Range**	**Basic Accuracy (%rdg + dgts)**
AC Current (A)	2.000 20.00 200.0 400	± (2% + 10d) ± (2% + 4d) ± (2% + 5d) ± (3% + 5d)
DC Voltage (V)	200m, 2, 20, 200, 600	± (0.5% + 1d)
AC Voltage (V)	200m, 2, 20, 200, 600	± (1.5% + 2d)
Resistance (Ω)	200, 2k, 20k, 200k, 2M, 20M	± (1.2% + 2d)
Continuity Check	Buzzer Sounds At Approx. 30	
Diode	Test current 0.4mA; Open circuit voltage 1.5V	

Order No.	Type	Description
KW0600286	KW06-286	Clamp Meter, Mini AC Autoranging 400A

Clamp Meter AC 600A

KW06-287 offer the convenience of a current clamp with the versatility of a multimeter. They are ideal for non-invasive current measurements above a few amps and include all the popular multimeter functions/ features demanded by the knowledgeable technician.

Features:

- 4000 counts LCD Display
- High quality
- Wide temperature range
- Overload protection on all Range
- Data hold
- Auto power off
- Continuity test
- Diode test
- Dimensions: 205 x 73 x 37mm
- Weight: 255gr

Specifications	
Function	Range
AC (A)	400, 600
DCV (V)	400m, 4, 40, 400, 600
ACV (V)	4, 40, 400, 600
Resistance (Ω)	400, 4K, 40K, 400K, 4M, 40M
Temperature	-20°C~1000°C or -4°F~1400°F
Capacitance (F)	40n, 400n, 4u, 40u, 100u
Frequency (Hz)	9.999, 99.99, 999.9, 9999K, 99.99K, 999.9K, 9999M

Order No.	Type	Description
KW0600287	KW06-287	Clamp Meter AC 600A

INSULATION TESTER

KRISBOW

Insulation Resistance Tester

Order No.	Type	Description
KW0600412	KW06-412	Insulation Resistance Tester

Scale of AC Voltage 0-700Volt ± (1.5% of rdg + 5 significant digit).

Specification	
Testing Ranting Voltage (V)	500V/1000/2500
Scale (Ohm)	0-20 G
Output Voltage	90-110% Testing Rating Voltage
Range (Ω)	0-20ΩΩ
Resolution (MΩ)	0.01MΩ
Accuracy	0-200MΩ ±< 3% of Reading 5 Significant Digits
	200MΩ -10GΩ ± < 5% of Road + 5.51%
	10GΩ - 20ΩΩ ±<10%

Deviation
0-200M Ohm ± (3% of Reading + 2 Significant Digit)
200M Ohm~10G Ohm ± (3.5% of rdg + 3 Significant Digit)
10000M Ohm ~ 20 G Ohm ± (3.5% of rdg + 3 Significant Digit)

EARTH TESTER

KRISBOW

▶ *Digital Earth Tester*

Function	Measuring Range	Accuracy
Earth Resistance (Ω)	20/200/1000Ω	±(2%+3)
Earth Voltage (V)	0-30	±(2%+5)
Resolution (Ω)		0.01
Data Hold	Yes	
Led Indication	Yes	
Power Supply	1.5V x 6 / 12V x 1	

Order No.	Type	Description
KW0600370	KW06-370	Digital earth tester 1000Ω

INDUSTRIAL MEGOHMMETER

FLUKE

▶ *1520*

Features :
The Fluke 1520 MegOhmMeter is a powerfull handheld insulation resistance tester that also measures voltage and checks connections with its lo-Ohms function.
- Large, backlit LCD with analog bar graph and digital display
- Three output voltages for insulation resistance testing: 250 V, 500 V, 1000 V
- Insulation resistance testing up to 4000 M.. ; switches automatically to voltage measurement when voltage is greater than 30 V ac or 30 V dc
- AC/DC voltage measurement up to 600 V
- Lo-Ohms function for testing connections
- Last reading memory display
- Four C-cell batteries for up to 5,000 tests per EN61557-2, with battery-life indicator and auto shut-off
- Autodischarge of capacitive voltage
- Heavy duty test leads, alligator clips and test probes
- Rugged, splash-proof case with impact-absorbing holster

Function	Range	Best accuracy	Resolution
Insulation Resistance			
Auto Ranges (MΩ)	4.000 MΩ, 40.00 MΩ, 400.0 MΩ, 4000 MΩ	To 100 MΩ : 2 % + 2 counts Over 100 MΩ : 10 % + 2 Counts + 1 %/GΩ	0.001 Min. to 10 Max.
Test Voltages (V)	250, 500, 1000	+ 20 %, -0 %	
Max. Measurement Current (mA)	1		
Audible/Visible Voltage Warning (V)	> 30 V ac or dc		
Lo-Ohms			
Resistance (Ω)	0 to 40.00Ω	2 % + 2 Counts	0.01Ω
Analog Bar Graph (Ω)	0 to 100Ω		
Audible/Visible Voltage Warning (V)	> 30 V ac or dc		
Resistance			
Resistance (Ω)	4000Ω	2 % + 2 Counts	1Ω
Analog Bar Graph (kΩ)	0 to 10 kΩ		
Voltage			
Voltage	0 to 600 V dc 0 to 600 V ac (50/60 Hz)	2 % + 2 Counts	1 V

Order No.	Type	Description
LK0600428	1520	Industrial megohmmeter

KEW ACCESSORIES

KYORITSU

▶ *Model 5201*

Benefits :
- Model 5201 is a highly portable and compact digital illuminometer for measuring illuminance from 0.1 to 19,990 Lux, with auto range switching.
- The digital display is held for a preset time (about 20 seconds) and, therefore, facilitates reading, recording and measuring in any direction

Type	Description
Model 5201	Kew Accessories

Specification	
Ranges	0.1-19990Lux(Automatic 3 Range Switching)
Accuracy	±5%rdg±1dgt
Measuring Time	2 Times Per Second
Temperature Humidity characteristics	±3%(at 20°C)
Angular Incident Light Characteristics	Closely Related to The Lambert's Cosine Law
Spectral Response Characteristics	Closely Related to The Spectral Luminous Efficiency (of A Standard Observer)
Power Source	6F22(9V) x 1
Dimensions (mm)	166(L) x 68(W) x 32(D)
Weight (gr)	180 Approx.
Accessories	Photocell Cover 6F22 x 1 Soft Carrying Case Instruction Manual

KEW ACCESSORY

KYORITSU

Model 5202

Benefits :

- 3 ranges changeable from low to high illuminance (200/2000/20000lux)
- Data hold function
- Digital light meter with separate light receiving sensor and meter

Type	Description
Model 5202	Kew Accessories

Specification				
Ranges	0.1-19990Lux			
Accuracy (23°C±5°C)	Lux	Accuracy	FC	Accuracy
	200	±(4% rdg+5 dgt)	20	±(4% rdg+5 dgt)
	2000	±(4% rdg+5 dgt)	200	±(4% rdg+5 dgt)
	20000	±(5% rdg+4 dgt)	2000	±(5% rdg+4 dgt)
Current Consumption	2mA Approx			
Response Time	2.5Times / sec.			
Operating Temperature Range	0-50°C Below 80% RH			
Storage Temperature Range (°C)	-10°C-60			
Angular Incident Light Characteristics	30°Less Than ±3%	60°Less Than ±10%	80°Less Than ±30%	
Spectal Response Characteristics	JIS C1609 CLASS A			
Power source	6F22(9V) x 1			
Dimensions (mm)	Meter:148(L) x 71(W) x 36(H) Light Receiving Sensor:85(L) x 67(W) x 32(H)			
Weight (gr)	270			
Accessories	- Carrying Case x 1 - 6F22(9V) x 1 - Photocell Cover x 1 - Instruction Manual x 1			

PAROTESTER 2

proceq

Parotester 2 is an equipment to measure hardness value of roll hardness, hardness profile in a papper

Features :

HARDNESS VALUE "L". This term, introduced to hardness measuring technology in 1978, is the quotient of the impact and rebound velocity of the impact body multiplied by 1000. Hardner wound locations produce a higher rebound velocity than those of lesser hardness. OBJECTIVE. This result is a digital hardness value

- without room for interpretation. High resolution, excellent reproducibility. ACCURACY. Accuracy of instrument ±0.5%. Automatic selftest for impact device and electronic unit. Expandable display range for optimal visual reperesentative of the interesting zone. SIMPLE. Press impact device - take a reading - press
- take a resding ...USER-FRIENDLY. Immediate visual evluation of the hardness profile. Automatic display of relevant statistical values ROBUST, REQUIRES LITTLE MAINTENANCE. Non-contact measurement, little wear and little maintenance

Specification	
Length Of Cable (m)	1,5 Cable
Conecting To PC	RS 232 C Interface
Battery Supply	6 Battery 1,5 V Type LR6 with Duration Approx 65 Hours
Temperature Range (°C)	0 ~ 50

Order No.	Type	Description
PC0000006	**36004400**	Paro tester 2 Roll Tester Complete

INDUSTRIAL MULTIMETER

FLUKE

Digital Multimeter

Features :
- Wide 1000V measurement range
- True-rms for precise measurement of non linear signals
- Capacitance, resistance, continuity and frequency
- Built-in thermometer
- Large, easy-to-read diaplay
- Backlight for work in dim areas
- min/Max. /Avg to record signal fluctuations

Benefits :
- Accurate on non-linear signals
- Three times more accurate
- no need for a separate thermometer
- Capture intermittent problems
- Large, easy to read
- Easy to read in dark locations
- One-hand operation
- Designed to withstand 8,000 volt peak transient impulses and protect against arc flash
- Built in frequency counter

Function	Range and resolution	Best Accuracy
V dc	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	± 0.09 %
V ac[1]	600.0 mV, 6.000 V, 60.00 V, 600.0 V, 1000 V	± 1.0 % of Reading
A dc	60.00 mA, 400.0 mA, 6.000 A, 10.00 A[2]	± 1.0 % of Reading
A ac[2]	60.00 mA, 400.0 mA, 6.000 A, 10.00 A[2]	± 1.5 % of Reading
Resistance	600.0Ω, 6.000 kΩ,60.00 kΩ, 6.000 MΩ, 50.00 MΩ	± 0.9 % of Reading
Capacitance	1000nF, 10.00 µF, 100.0 µF, 9999µF	± 1.2 % of Reading
Frequency[3]	99.99 Hz, 999.9 Hz, 9.999 Hz, 99.99 kHz	± 0.1 % of Reading
Temperature	-40°C to +400°C (-40°F to +752°F)	1,0 % of Reading

Order No.	Type	Description
LK0600264	**179**	Digital Multimeter

87V

Features :
- Expanded capacitance range to 10.000µF
- Built-in thermometer
- New design has better impact protection

Benefits :
- Accurate voltage and frequency measurements on pulse width modulated signals
- No separate, thermometer required
- Measure more capacitors
- Precise measurements in a handheld tool
- Increased protection from 8 kV spikes that can cause arc flash

Function	Range and Resolution	Best Accuracy
DC Volts	600.0mV, 6.000V, 60.00V, 600.0V, 1000V	0,05 %
AC Volts	600.0mV, 6.000V, 60.00V, 600.0V, 1000V	0,7 % (True-rms)
DC current	600,0µA, 6000µA, 60,00µA, 600.0mA, 6.000A, 10.00A	0,2 %
AC current	600,0µA, 6000µA, 60,00µA, 600.0mA, 6.000A, 10.00A	1.0 % (True-rms)
Temperature (Excl. Probe)	-200 to 1090°C (-328 to 1994°F)	1.0 %
80BK Temperature Probe	-40 to 260°C (-40 to 500°F)	2.2 deg C or 2%
Resistance	600.0Ω, 6.000kΩ, 60.00kΩ, 6.000MΩ, 50.00MΩ	0,2 %
Capacitance	10.00nF, 100.0nF, 1.000µF, 10.00µF, 100.0µF, 9,999µF	1,0 %
Frequency	199.99Hz, 1.9999kHz, 19.999kHz, 199,99kHz	5.0 %

Order No.	Type	Description
LK0601220	**87V**	Industrial Tue-Rems Multimeter w/Temp

SERVO CONTROL CONTAINER COMPRESSION TESTER *TAPPI-804, JIS-Z0212, GB/T 4857.4*

GOTECH

GT-7001-DS

It's used for measuring the pressure strength of cartons containers etc.

Specification		
Capacity (Optional) (T)		2, 5, 10
Unit (Switchable)		Kgf, lbf, N, kN, kPa, Mpa
Resolution		1/50,000
Accuracy		within ±1%
Test Space (LxWxH) (cm)		120 x 120 x 100 or spedified
Speed of Compression (mm/Min)		0.001~200 mm/min
Motor		AC servo
Dimension (cm)	Main Unit	195 x 120 x 198
	Computer/Desk	100 x 60 x 118
Weight (kg)	Main Unit	1238
	Computer/Desk	60
Power		3ph, AC 220V, 15A/380V, 12A/415V, 10A

Order No.	Type	Description
KH0000391	**GT-7001-DS**	Servo Control Container Compression Tester

BURTSING STRENGTH TESTER

ISO-2759, GB/T-6545, JIS-P8112, L1018, ASTM-D2210, TAPPI-T403

▶ *GT-7013*

This tester is used to test the bursting-resistance strength of corrugated paper box which are used in packing the products as electronic instruments, electric wire, hardwares, bike, valise, food, shoe, furniture, etc. It can be also used to test the cloth and syntetic leather.

Specification		
Model		GT-7013-ADP
Sensing Method		Pressure Transducers
Indicating Method		digital
Capacity (optional)	High Pressure	0 ~ 100 kgf/cm2 (0.01kgf/cm2)
	Low Pressure	0 ~ 16 kgf/cm2 (0.01kgf/cm2)
Motor		Shockproof motor 1/4HP
Dimension (WxDxH) (cm)		43 x 53 x 52cm
Weight (kg)		67kg
Power		1ph, AC 220V, 2.6A

Order No.	Type	Description
KH0000162	**GT-7013-ADP**	Burtsing Strength Tester

PRINTING INK DURABILITY TESTER

GOTECH

TAPPI UM 487

▶ *GT-7034-T*

This machine used to determine the abrasion resistance of printing ink.

Specification	
Load (lb)	2, 4
Abrasion Space	57.15mm Around Arc Locus
Abrasion Hammer (mm)	50.8 x 50.8
Abrasion Speed	43/Min. (CPM)
Counter	LCD, 0~999.999
Dimension (WxDxH) (cm)	27 x 28 x 35
Weight (kg)	16
Power	1ph, AC 220V, 13A

Order No.	Type	Description
KH0000010	**GT-7034-T**	Printing Ink Durability Tester

BOBBIN COMPRESSION TESTER

▶ *GT-7036-A*

This tester is used for determining the transverse compression strength of paper tube, bobbi, paper can, composite can, etc. It can also be used for testing taper tube

Specification	
Model	**GT-7036-A**
Capacity (Optional kg)	200, 500, 1000
Sensor	Load Cell
Indicating Method	Micro Computer Digital Display
Resolution	1/10,000
Accuracy	Within ± 1%
Return Speed	Full speed
Dimension (WxDxH cm))	85 x 65 x 80
Weight (kg)	130
Power	1ph, AC220 V, 2 ~ 6A

Order No.	Type	Description
KH0000055	**GT-7036A**	Compress Test f/Bobbin 500kg
KH0000130	**GT-7036A**	Compress Test f/Bobbin 1000kg

MICRO-COMPUTER RING CRUSH TESTER

▶ *GT-6011-A*

This tester is used for testing the ring crush strength of the paperboard. With the proper accessories (optional), it's also available to test the column compress and adhesion strength of corrugated board.

Specification	
Capacity (kgf)	200
Resolution	1/100,000
Accuracy	±1%
Compression Plate (mm)	ø 150
Space Between Compression Plates (mm)	180
Test Speed (mm/min)	12.7
Printing	PL-16 By PL-16 Printer
Dimension (WxDxH) (cm)	55 x 50 x 86
Weight (kg)	88
Power	1ph, AC220V, 2A

Order No.	Type	Description
KH0000155	**GT-6011-A**	Micro-Computer Ring Crush Tester

PAPER MOISTURE TESTER

GOTECH

▶ ***HK-300 Series (-1/-2/-3)***

HK-300-1

HK-300-2

HK-300-3

This paper moisture sensor can measure the moisture content of a variety of paper types, such as kraft paper, liner board, copy paper and cardboard. The HK-300 series comes in three sets with different sensor types to accommodate the type of paper to be measured and the application: the HK-300-1 set includes a grip sensor, the HK-300-2 set includes an electrically conductive rubber sensor, and the HK-300-3 set includes a constant pressure sensor.

Order No.	Type	Description
	HK-300-1	Paper Moisture Tester
	HK-300-2	Paper Moisture Tester
	HK-300-3	Paper Moisture Tester

Specification	
Measurement Method	Electrical Resistance Method
Applications	Kraft Paper, Liner Board, Copy Paper, Cardboard, Etc
Calibration Curves	Kraft Paper, Liner Board, Copy Paper, Cardboard
Standard Method	Jis P8127 (Copy Paper, Cardboard)
Measurement Range	Grip sensor: Copy Paper, 4-15%/Cardboard, 6-20%
	Conductive Rubber Sensor: Copy Paper, 4-25%/Liner Board, 6-23%/Kraft Paper, 5-24%
	Constant Pressure Sensor: Copy Paper, 2-10%/Liner Board, 5-15%/Kraft Paper, 2-10%
Measurement Precision	Standard Error 0.4% (At 15% Moisture Or Less)
Display Format	Digital (LCD, Smallest Displayed Unit 0.1%)
Power Source	6x 1.5v ("Aa" Size Alkaline), Approx 0.45W
Dimensions and Weight	110(W) x 210(D) x 50(H)mm, 0.5kg
Accessories	Carrying case, Shoulder Strap, 6x 1.5V Batteries ("AA" Size Alkaline)
Options	Printer (VZ-330), Printer Cable (VZC-26)

ELMENDORF TEARING STRENGTH TESTER

TAPPI-T414, JIS-P8116

▶ ***GT-7055***

Use the segment pendulum to tear the specimen and then read the tearing strength on the scale.

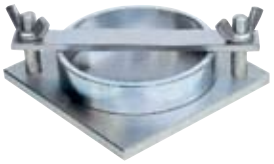
Specification	
Capacity (gr)	0~1600
Grip (mm)	Width 25, Depth 12
Dimension (WxDxH) (mm)	50 x 25 x 37
Power (kg)	13

Order No.	Type	Description
KH0000065	**GT-7055**	Elmendorf Tearing Strength Tester

WATER ABSORPTION TESTER

TAPPI-T441, JIS-P8140

▶ ***GT-6015***



This tester is used for determining the water absorption of paper.

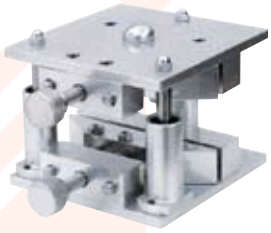
Specification	
Height of Frame (mm)	25
Thickness of Frame (mm)	6
Fixed Plate (mm)	170 x 25 x 6
Base (mm)	150 x 150 x 10
Dimension (WxDxH) (cm)	5.5 x 5.5 x 6.5
Weight (kg)	2.8

Order No.	Type	Description
KH00000192	**GT-6015**	Water Absorption Tester

COLUMN COMPRESSION TESTING GRIP

JIS-Z0403-2

▶ ***GT-6011-2***



This grip is working with ring crush tester to test the column compression strength.

Specification	
Dimension (WxDxH) (cm)	15 x 10.5 x 6.5
Weight (kg)	1.5

Order No.	Type	Description
KH00000157	**GT-6011-2**	Column Compression Testing Grip

ADHESIVE STRENGTH TEST ACCESSORIES

GB/T6548, JIS-Z0402, CNS-3327

▶ ***GT-6011-1***

This attachment is used for determining the adhesive strength of corrugated board.

Specification	
Model	C
Specimen (mm)	80 x 25
	50 x 150
Dimension (WxDxH) (mm)	109 x 76 x 30
Weight (gr)	400

Order No.	Type	Description
KH00000154	**GT-6011-1**	Adhesive Strength Test Accessory

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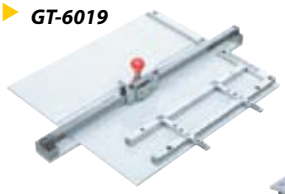
SAMPLE CUTTER FOR COLUMN COMPRESSION TESTER *JIS-Z0403-2*

GT-6019

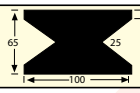


GT-6019-A

GT-6019-B

Use two cutters. (A) Parallel Cutter (B) Angle Cutter. to get a standard specimen for column compression test

Specification	
Model	GT-6019-A
Adjustable Space	25,30,50,60,80,
	100,120,150,
	175mm
Cutting Depth	<8mm
Dimension (WxDxH) (cm)	55 x 45 x 16
Weight (kg)	36

Specification	
Model	GT-6019-B
Specimen After Cut (mm)	
Dimension (WxDxH)	20 x 20 x 30 cm
Weight (kg)	5.5

Order No.	Type	Description
KH0000159	**GT-6019-A**	Sample Cutter for Column Compression Tester
KH0000160	**GT-6019-B**	Sample Cutter for Column Compression Tester

FLAT CRUSH CUTTER *ISO-3035*

GT-6020

Use this cutter to get a standard specimen for horizontal ring crush test.

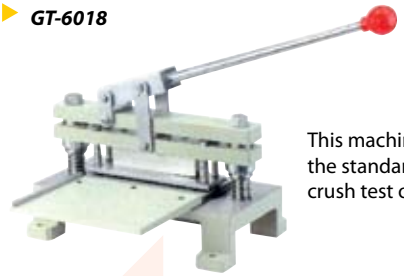
Specification			
Model	A	B	C
Dia. After Cut (optonal) (mm)	ø90.6±0.5	ø112.8±0.5	ø64±0.5
Area of Specimen (cm^2)	64.5	100	32.2
Weight (kg)	3	3	3

Order No.	Type	Description
KH0000161	**GT-6020**	Flat Crush Cutter

DIE CUTTER

GOTECH

GT-6018



This machine is used for preparing the standard specimens for ring crush test or others

Specification		
Model	**GT-6018-A**	**GT-6018-B**
Specimen After Cut (mm)	152 x 12.7	200~250 x 15
Application	Ring Crush Test	Tensile Test
Dimension (WxDxH) (cm)	67 x 45 x 47	67 x 45 x 47
Weight (kg)	35	35

Order No.	Type	Description
KH0000158	**GT-6018-A**	Die Cutter 12.7X152.4mm
KH0000012	**GT-6018-B**	Die Cutter

PUNCTURE TESTER *TAPPI-T-803, JIS-P8134, GB 2679.7*

GT-6012

This tester is used for determining the puncture strength of corrugated board, fibre board, plastic and plywood board

Specification	
Specimen (mm)	175 x 175, 300 x 300
Punch Head (mm)	Height 1" Radius 1.5
Capacity (kg-cm)	(A) Scale 0~53.5 (D) Scale 0~428
	(B) Scale 0~107 (E) Scale 0~26.75
	(C) Scale 0~214
Dimension (WxDxH) (cm)	86 x 43 x 80
Weight (kg)	135

Order No.	Type	Description
KH0000013	**GT-6012**	Puncture Tester

DROP TESTER *ASTM-5276, GB/T 4857, 5*

GT-7003-B1

It simulates the drops/falls of the finished product with the packing to evaluate its damage degree.

Specification	
Raise Range (cm)	20 ~ 150, 40 ~ 165 (Optional)
Adjustable (cm)	(22 ~ 108) x 76 (20 ~ 150) (22 ~ 108) x 76 (40 ~ 165)
Max. Specimen Weight (kg)	60 (Approx)
Motor	Height Adjustable 1/4HP
	Width Adjustable 60W
Dimension (cm)	Main Unit: 227 x 142 x 220
	Control Unit: 25 x 33 x 109
Weight (kg)	667 (Approx.)
Power	1ph, Ac 220V, 3A

Order No.	Type	Description
KH0000021	**GT-7003-B1**	Drop Tester

COMPUTER SYSTEM UNIVERSAL TESTING MACHINE

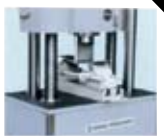
GOTECH

GT-7001-LC

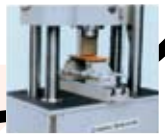
Measure tension, compression, bend, shear, tear, peel, and non metallic- , etc

Tensile Test

Compression Test



Bending Test



Transverse Test

Model			GT-7001-LC 200	GT-7001-LC 100	GT-7001-LC 50	GT-7001-LC 30	GT-7001-LC 20	GT-7001-LC 10
Capacity (kN)			2000	1000	500	300	200	100
Speed (Without Loading) (mm/Min)			0.01~65	0.01~70	0.01~70	0.01~90		
Display Method			By Computer					
Load Range			Rangeless (Full Scales at The Same Amplification)					
Resolution			1/200,000 (or 1/300.000 Specified)					
Accuracy			± 1 %					
Driving Method			Hydraulic System					
Tensile	Max. Space (mm)		620	610	490	460		
	Grips for Rod (rod dia.) (mm)		ø12~ø85	ø13~ø75	ø12~ø50	ø10~ø40		
	Grips for Plate (mm)		85 x 110	70 x 90	50 x 80	40 x 60		
Compression	Effective Space (mm)		700	650	540	540		
	Diameter of Compression Plate (mm)		ø200	ø160	ø120	ø100		
Bending (Optional)	Effective Space (mm)		245	225	290	280		
	Bending Jig	Max. Space Between Two Fulcrums (mm)	790	340	390			
		Fulcrum Size (Dia x Width) (mm)	ø30 X 210	ø30 x 145				
Transverse (Optional)	Punch	Radius of Punch (mm)	R 35	R 22	R 22	R 16		
		Punch Width (mm)	200	160	120	100		
Ram Stroke (mm)			230		220			
Effective Space Between Two Columns (mm)			730	650	495	500		
Crosshead Speed (Up/Down) (Approx.) (mm/Min)			170	200	250	300		
Dimension (W x D x H)	Main Body (cm)		160 x 110 x 300	140 x 80 x 232	110 x 73 x 205	100 x 70 x 181		
	Control Box (cm)		113 x 69 x 140					
Weight (Approx.)	Main Body (kg)		7715	3250	2405	1270		
	Control Box (kg)		255					
Power			3ph/220V/30A; 3ph/380V/20A	3ph/220V/20A; 3ph/380V/14A	3ph/220V/13A; 3ph/380V/10A			

Order No.	Type	Description
KH0000395	GT-7001-LC 200	Computer System Universal Testing Machine
KH0000122	GT-7001-LC 100	Computer System Universal Testing Machine
KH0000439	GT-7001-LC 50	Computer System Universal Testing Machine

Order No.	Type	Description
KH0000014	GT-7001-LC 30	Computer System Universal Testing Machine
KH0000410	GT-7001-LC 20	Computer System Universal Testing Machine
KH0000119	GT-7001-LC 10	Computer System Universal Testing Machine

Kawan Lama #1 Commercial & Industrial Supply Company

IZOD CHARPY DIGITAL IMPACT TESTER

ISO-179, 180, ASTM D256, D6110, GB/T1843, 1043

GT-7045-MD

This tester is used to test the impact-resistance of specimen of various materials which is endured the impact in a certain angle and weigth to access its toughness. After test, test result are calculated/ saved automatically, displayed and printed out (single or multiple printing). Impact action is simple by pressing a control button.

Specification	
Capacity Optional	(1)ZOD (1J, 2.75J, 5.5J) and CHARPY (1J,2.75J, 5.5J) (2)ZOD (1J, 2.75J, 5.5J) and CHARPY(1J,2J,4J,5J)"
Impact Speed (m/sec)	2.9, 3.46
Impact End to Shaft Center (cm)	22.96, 32.7
Drop Angle	150°
Energy Unit	kg-cm, kg-m, lb-ft, J (or defined by user)
Angle Display Resolution	0.05°
Energy Display Resolution	0.01J
Printing	By PL-16 Printer
Dimension (WxDxH) (cm)	60 x 32 x 78
Weight (Approx.) (kg)	180
Power	1 ph, AC 220V, 50/60Hz

Order No.	Type	Description
KH0000448	**GT-7045-MD**	Izod Charpy Digital Impact Tester

CHARPY IMPACT TESTER

GT-7052

It measures the energies absorbed by the specimens of various metallic materials after impacting at a specified angle and defined weight so as to determine their toughness.

Specification		
Capacity (optional) (kg-m)	30	50
Swing Angle	146°	
Min. Graduation	1°	
Hammer Weight (kg)	30 (approx.)	
Impact Speed (m/sec)	5.18	
Impact Center Length (mm)	750±5	
Shaft Center Height (mm)	1100	
Dimension (W x D x H) (cm)	142 x 60 x 128	
Weight (kg)	300	350
Specimen	JIS No.3, No.4, No.5	

Order No.	Type	Description
KH0000298	**GT-7052**	Charpy Impact Tester

EXTENSOMETER

GOTECH

GT-U33

It's specially designed for the measure elongation between 0 - 5mm or specified (optional) for the dumb-bell specimen

Order No.	Type	Description
KH0000393	**GT-U33**	Extensometer

HYDRAULIC CLAMPING EQUIPMENT

GT-U35

This equipment adapts a hydraulic driving system of clamping equipment

Order No.	Type	Description
KH0000497	**GT-U35**	Hydraulic Clamping Kit F/Gt-7001

CHARPY DIGITAL IMPACT TESTER

GT-7052-D50

It is used for determining the energy absorbed by a specimen of various metallic materials after being impacted by a specified weight at a given angle so that you may estimate the toughness of various metallic materials. It will calculate the impact energy of tested meterial by use of precise encoder and microcomputer.

Item	Specification
Method	Charpy
capacity	50 kg-m
Drop Angle	104°
Distance From Striker's Edge To Shaft Center	85cm
Impact Speed	5.42m/s
Gap Of Specimen Support	40mm
Radius of Specimen Support 1~1.5mm	
Radius of Striker's Edge	2~25mm
Arc of Striker's Edge	30°

MOLDING TEST PRESS

▶ *GT-7014-A*

This machine is very convenient for preparing test plastic specimen, rubber, injection and extrusion simulation.

Specification	
Capacity	10, 30, 50 Ton Optional
Temp. (°C)	room temp. ~ 300
Timer	LED, 0.01 sec. ~ 999hr
Heat Plate Area (mm)	315 x 288
Cooling Method	Water (Optional)
Dimension (WxDxH) (cm)	100 x 70 x 150
Weight (kg)	765
Power	3ph, 4W, AC 380V, 20A

Order No.	Type	Description
KH0000150/ KH0000185	**GT-7014-A**	Molding Test Press

MELT FLOW INDEXER

GOTECH

ASTM-D1238, D3364, ISO-1133, JIS-K7210, GB/T3682

▶ *GT-7100-MI*

This tester covers measurement of the rate extrusion of molten resins.

Specification	
Temperature Control	Room Temp.~300°C (Accuracy ±0.1°C). PID Control, Include Overheat Protection
Load (gr)	325, 1000, 1200, 2160, 3800, 5000, 7160, 100000, 12500, 21600 (Equipped With One Of Them)
Motor (W)	30
Auto Cutoff Device	Auto/Manual Selection, Time Interval 0.1~999.9 Min .
Accessories	• Mercury Thermometers, 150°C, 200°C, 250°C, 300°C (Equipped With One Of Them) • Brush for Clean The Die • Brush for Cleaning Cloths • Reamer • Speculum • Bakelite Funnel For Specimen Entrance • Weight Rod For Pressing • Cylinder Gauge
Dimension (WxDxH) (cm)	40 x 51 x 60
Weight (kg)	42 (Without Weights)
Power	1ph, AC 220V, 5A

Order No.	Type	Description
KH0000350	**GT-7100-MI**	Melt Flow Indexer

TAPE RETENTIVITY TESTER

CNS-11888, GB/T4851

▶ *GT-7090*

Measure the distance of slide of the tape after a certain time.

Specification	
Load	1 kg, 5 Pieces
Sampling	5 sets, Individual Timing
Battery Timer	1~999,999Min.
Dimension (WxDxH) (cm)	45 x 20 x 63
Weight (kg)	32

Order No.	Type	Description
KH0000014	**GT-7090**	Tape Retentivity Tester

MELTING POINT APPARATUS

GOTECH

IA-9000 Series

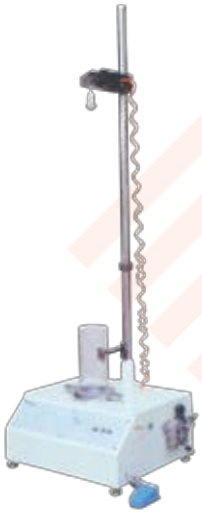
Digital IA9000 Series consists of an adjustable *X viewing magnifier arm that folds and large LCD display. Its heating chamber is an aluminium heating block, which avoids hazards and mess associated with oil baths.

Specification		
D x W x H	35.5x20x8cm(14x8x3.3in)	
Shipping weight	2.5 kg (5.5lbs)	
Cat No.	Description	Electrical Requirements
IA9100	Fixed Ramp Rate Model	230v
IA9100x1	Fixed Ramp Rate Model	115v
IA9100x6	Fixed Ramp Rate Model	230v EU Plug
IA9200	Programmable Ramp Rate Model	230v
IA9200x1	Programmable Ramp Rate Model	115v
IA9200x6	Programmable Ramp Rate Model	230v EU Plug
IA9300	Biginning/Ending Recording Model For Pharmacopeia Requirements	230v
IA9300x1	Biginning/Ending Recording Model For Pharmacopeia Requirements	115v
IA9300x6	Biginning/Ending Recording Model For Pharmacopeia Requirements	230v EU Plug

Order No.	Type	Description
KH0000015	**12-144-1**	Fisher-Scientific Melting Point Tester

PLASTIC FILMS GROP DART TESTER

GT-7037-F ASTM-D1709, ISO 7765-2, GB 9639



The drop dart is released by mechanism driven by pneumatic power through a specified height to impact the film specimen clamped by the clamping assembly.
Determination of the energy in terms of the weight (mass) that cause the failure of plastic film in 50% of specimens test.

Specification	
Model	**GT-7037-F**
Method of Grip	Pneumatic Type
Release Method of Dart	Pneumatic Type
Drap Height (mm)	600 (26"), 1524 (60")
Pressure (kg/cm³)	3 ~ 5 (Prepared By Customer)
Dimension (WxDxH cm))	81 x 65 x 240
Weight (kg)	87
Power	1ϕ, AC 220 V, 1A

Order No.	Type	Description
KH0000504	**GT-7037-F**	Plastic Film Dart Tester

TENSILE STRENGTH TESTER

GT-7010-D$_2$EP

Extensometer is optional

Specification	
Model	**GT-7010-D$_2$EP**
Capacity (optional)	100, 200, 500 N; 1, 2, 5kN
Unit (Switchable)	Kgf, gf, Ton, lbn, N, kN or By User's Definition
Load Resolution	1/50,000 (U25)
Load Accuracy (mm)	± 0,5%
Stroke (exlude the grips mm))	1100
Method of Speed Input	Knob
Test Speed	5 ~ 500mm/Min. Adjustable
Stroke Resolution (mm)	Stroke : 0.00125 /Extensometer : 0.025
Sample Rate	16 times /Sec.
Indicator	Display and Print Elongation Value, Test Values, Max. Value and Break Values.
Motor	AC Serve Motor
Dimension (W x D x H cm))	55 x 35 x 186
Weight (approx kg))	98
Power	ϕ 1 , 220V, 5A or Specified By User

Order No.	Type	Description
KH0000478	**GT-7010-D$_2$EP**	Tensile Strength Tester

The accessories such as the different grips, elongation measuring-devices...etc. are equipped according to the requirements specified in the contract; our sales representative will also give the proper suggestions to our customer beforehand.

SERVO CONTROL SYSTEM UNIVERSAL TESTING MACHINE

GOTECH

AI-7000 Series

AI-7000 M

AI-7000 S

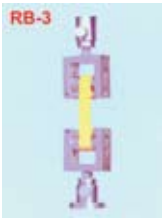
Grips and Fixtures for Every Testing Need (2)

Grips and Fixtures For Every Testing Need (1)

Type : Bending fixture
Max. . Load: 500kg

Type : Compression platens
Max. . Load: 1 ton

Type : Capstan grips
Max. . Load: 200kg



Type : Webbing grips
Max. . Load: 300kg

Specification		
Model	**AI-7000 S**	**AI-7000 M**
Capacity (Optional)	100,200,500 N; 1,2,5 kN	10,20 kN
Unit (Switchable)	kgf, lbf, N, kN, kPa, MPa	
Load Resolution	1/200,000 (or 1/300,000 Specified)	
Load Accuracy	±0.25%	
Load Range	Rangeless (Full Scales at The Same Amplification)	
Stroke (Exlude The Grips) (mm)	1000	1100
Effective Width (mm)	410	
Test Speed	0.0001~/Min. Selectable	
Speed Accuracy	±0.5%	
Stroke Resolution (mm)	0.00004	
Sample Rate	200 Time/Sec	
Communication Interface	USB	
Motor	AC Servo Motor	
Dimension (WxDxH)		
Main Unit (Height Exclusive ofFootpad) (cm)	75 x 70 225	
Computer Desk (cm)	100 x 60 x 118	
Weight (Approx)		
Main Unit (kg)	152	180 (Exclude The Grips)
Computer / Desk (kg)	60	
Power	1Φ, 220V, 15A or Specified By User	

DROP BALL IMPACT TESTER

GT-7037

Specially test materials of plastic, acrylic, glass, plastic, etc.

Specification	
Max. Height (m)	2 or optional
Control Way of Dropped Ball	Adopt AC Electromagnetic Control Method
Dimension (WxDxH) (cm)	55 x 54 x 227.5
Weight (kg)	76
Power	1ph, AC 200V, 1A

Order No.	Type	Description
KH0000056	**GT-7037**	Drop Ball Impact Tester

Kawan Lama
#1 Commercial & Industrial Supply Company

MOVING DIE RHEOMETER (MDR)

GOTECH

▶ *M-2000*

M-2000 Die Rheometer (rotorless cure meter) is used for the measurement of selected vulcanization characteristics of rubber compound

Specification		
Model	M-2000 A, M-2000 FA Sealed Die Type	M-2000, M-2000 F Unsealed Die Type
Die's Configurations (optional)	Isolate The Die's Opening From The Frame By The Sealed Ring. The Upper and Lower Die Can Be Totally Sealed	Available To Adjust Precisely The Gap Between Upper and Lower Die Freely
Produce Spec.	ASTM-D5289, ISO-6502, GB-T/16584	
Temp. Control	Control By Computer and PID.SSR Range: Room Temp.~200°C	
Temp. Accuracy	Temp. Error ±0.3°C Min. Reading of Temp. 0.1°C	
Speed of Heating	Room Temp.~ 190°C<8' 50"	
Time for Temp. Change	175°C~190°C<4' 190°C~175°C<4' 50"	
Oscillation Frequency	100cpm, Driven By Servo Motor	
M-2000FA, M-2000F Foam Force (kg)	P,1~1000 Selectable for Auto Switching or Manually Setting	
Torque Range	S', 1~200 lb-in/S", 0.3~200 lb-in Selectable for Auto Switching or Manually Setting	
M-2000FA, M-2000F Pressure Unit	N, dN, kg, lb, N/m2, dN/m2, kg/cm2, lb/in2, kpsi	
Torque Unit	kg-cm, lb-in, N-m, dN-m	
Min. Reading of Torque and Pressure	0.001 unit	
Oscillation Amplitude	±0.5°, ±1°, ±2°, ±3°	
Time Range	Without Limit; Can Be Change During Test	
Power	1ph, 220V ±10%, 50/60Hz ±3Hz, 10A	
Pressure	4.6kg/cm2 (0.46 MPa) Prepared By Customer	
Dimension (WxDxH) (cm)	Main Unit : 66 x 66 x 124	Main Unit : 66 x 66 x 115
	Test Stand : 60 x 60 x 75 Computer Cabinet : 55 x 60 x 151 (Including The Printer)	
Weight (kg)	399	393
Equipped with	Computer X 1(Includes Monitor X1, Hard Disk X1 and Printer X1)	
Accessories	Torque Calibrator X1 (Inside The Main Unit), Heater Plate X2, A Pair of Gloves, Power Regulator X1, Screwdriver X1, Printer Paper, Sealed Ring X10 (Only for Sealed Die)	

Order No.	Type	Description
KH0000125	**M-2000 A**	Moving Die Rheometer (MDR)
KH0000303	**M-2000**	Moving Die Rheometer (MDR)

FOAM RUBBER RECIPROCATING COMPRESSION TESTER ISO-7214, JIS-K6767

▶ *GT-7049-B*

Measure the thickness of the specimen and calculate its permanent deformation rate.

Specification	
Stroke (mm)	0~50 (Adjustable)
Distance Between Compression Plates (mm)	180 (Adjustable)
Area of Compression Plate (cm)	30 x 30
Motor	1ph, AC 1/3 HP
Counter	LCD, 0~999,999
Dimension (WxDxH) (cm)	60 x 40 x 75
Weight (kg)	93
Power	1ph, AC 220V, 5A

Order No.	Type	Description
KH0000016	**GT-7049-B**	Foam Rubber Reciprocating Compression Tester

SUPER DAYLIGHT

▶ *GT-100 W*

This machine is specially designed to offer the standard and objective illumination in order to accurately facilitate color control and comparison

Specification	
Light Kinds	International Standard Artificial Daylight.
	Cool White Flourescent. USA Shop Light Source
	Sun-Setting Light. Yellow Light Source
	Ultraviolet Lamp
Interior (WxDxH) (cm)	67 x 38 x 36
Dimension (WxDxH) (cm)	71 x 40 x 57
Weight (kg)	32
Power	1ph, AC 220V, 3A

Order No.	Type	Description
KH0000002	**GT-100 W**	Super Daylight

COMPRESSION AND DEFORMATION TESTER
ASTM-D395, GB/T 7759

▶ *GT-7049*

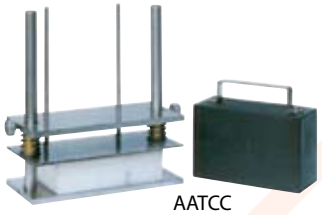
It's used especially to test the static compression for rubber

Specification	
Specimen (mm)	Rubber ø 28.68, 12.7 (D) Foam Plastic 50 x 50 x 25 (LxWxD)
Dimension (WxDxH) (cm)	20 x 12 x 10
Weight (kg)	11

Order No.	Type	Description
KH0000202	**GT-7049**	Compression and Deformation Tester

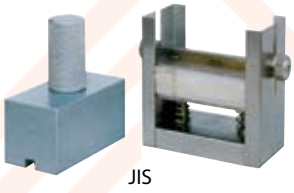
PRESPIRATION METER
AATC-15, ISO 10SE04, JIS-L0846, L0847, L0848, L0854, GB/T 3922

▶ *GT-7023*



AATCC

Completely and averagely soak the specimen into the acid and alkaline



JIS

Measure grade of sweat endurance againts the gray scale after drying

Specification	Specimen (mm)	Acrylic Plate (mm)	Load (kg)
JIS (A)	60 x 60	115 x 63 x 1.5 ~ 3 (D)	4.6 kg
JIS (B)	40 x 100	115 x 63 x 1.5 ~ 3 (D)	5.1 kg
AATC	60 x 60 mm		4.5 kg

Order No.	Type	Description	Dimension (WxDxH) (cm)	Weight (kg)
KH0000195	***AATC***	Prespiration meter	25x8x19	8
KH0000018	**JIS**	Prespiration meter	17x8x19	8

CROCK METER
ISO-105, ASTM-D2054, AATCC-8, JIS-L0849, 0862, GBI/T3920

▶ *GT-7034*

GT-7034-A

GT-7034-B

It's used to determine the decolored extent for the dyed textile or dyed leather by abrasion method

Specification		
Model	GT-7034-A	GT-7034-B
Motor	Motor/Double Hammers	Manual/Single Hammer
	1/4HP	
Counter	LCD, 0 ~ 999,999	0 ~ 9,999
Dimension (WxDxH) (cm)	53 x 40 x 32	65 x 20 x 22
Weight (kg)	47	5.2
Power	1ph, AC 220V, 3A	

Order No.	Type	Description
KH0000134	**GT-7034-A**	Crock Meter
KH0000054	**GT-7034-B**	Crock Meter

CUTTER PRESS *UL-1581, ASTM-D412*

GOTECH

▶ *GT-7016*

GT-7016-A

GT-7016

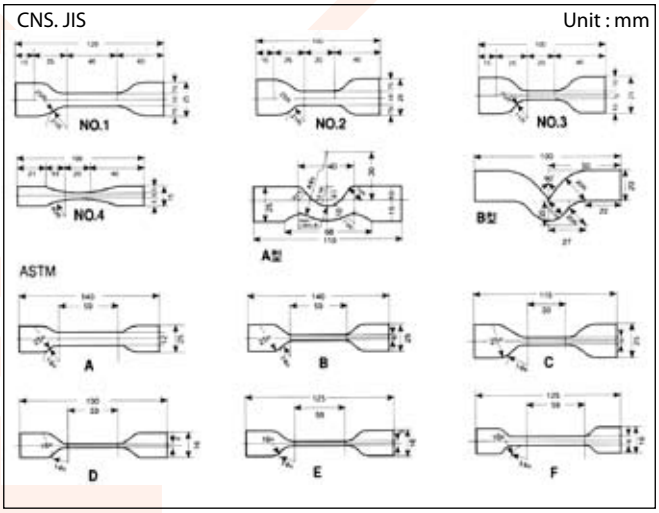
This machine is used to cut specimens of various specifications for testing.

Specification		
Model	GT-7016-A	GT-7016
Dimension (WxDxH) (cm)	20 x 70 x 80	ø 41 x 72 (H)
Weight (kg)	47	62

Excluding the cutter

Order No.	Type	Description
KH0000017	**GT-7016-A**	Cutter Press
KH0000037	**GT-7016**	Cutter Press

DUMB-BELL CUTTERS



LASER CUTTER *ASTM-D638, JIS-K6301, K7113*

▶ *GT-01LS*

Specification	
Cutting Acuracy	± 0.1 ~ 0.2mm
Blade Thickness	0.7mm
Application	Rubber, PVC, Leather, Paper. etc

Order No.	Type	Description
KH0000019	**GT-01LS**	Laser Cutter

WHOLE SOLE FLEXING *EN-344, SASTRA TM 161, ISO-20344*

GT-7011-E

This machine is used to determine the resistance of materials to cut growth during repeated flexing.

Specification	
Sampling	3pcs
Counter	LCD, 0 ~ 999,999
Motor (W)	DC Brushless 120
Dimension (WxDxH) (cm)	100 x 45 x 54
Weight (kg)	168
Power	1ph, AC 220V, 3A

Order No.	Type	Description
KH0000020	**GT-7011-E**	Whole Sole Flexing

SHOE LACE ABRASION TESTER

DIN-4843, QB/T2226, SATRA PM154

GT-7012-E

For measure life cycle by abrasion method.

Specification	
Spacer	4sets
Weight	4pcs
Counter	LCD, 0 ~ 999,999
Motor (W)	DC Brushless 120
Dimension (WxDxH) (cm)	66 x 58 x 42
Weight (kg)	66
Power	1ph, AC 220V, 3A

Order No.	Type	Description
KH0000341	**GT-7012-E**	Shoe Lace Abrasion Tester

SHOE FLEXING TESTER *SATRA TM92*

GT-7011-SA

This tester is used for determining the flexibility resistance and or indicating the sole cracks of shoe or shoe through reciprocating flexing movements under the specified angle and frequency

Specification	
Specimen	2 Pairs (4 Pieces) UK Size for Children's Shoe 4~13; for Adult's : 1~12
Flexing Angle	10°, 15°, 20°, 25°, 30°, 35°, 45°, 50°, 60°, 90° (Adjustable)
Counter	LCD, 0 ~ 99,999,999
Dimension (WxDxH) (cm)	97 x 77 x 70
Weight (kg)	236
Power	1ph, AC 220V, 2.8A

Order No.	Type	Description
KH0000403	**GT-7011-SA**	Shoe Flexing Tester

RUB COLOR FASTNESS TESTER

GOTECH

SATRA PM8

GT-7034-RUB

This machine is used to test the abrasion resistance and fastness of finish of leather or synthetic upper/linings, fibreboard,...etc.

Specification	
Specimen (mm)	60(W) x 60(L) or ø 60
Wool Felt Pad	Outside Dia. 25 ± 1mm, Bore Dia. 3 ± 0.5mm 6.5 ± 0.5mm or 5.0 ± 0.5mm(D), Density 190 ± 20kg/m3 (In Extra Charge)
Dimension (WxDxH) (cm)	26 x 38 x 49
Weight (kg)	34
Power	1ph, AC 220V, 3A

Order No.	Type	Description
KH0000486	**GT-7034-RUB**	Rub Color Fastness Tester

SLIDE FASTENER RECIPROCATING TESTER *SATRA TM 50, QB/T 2171*

GT-7518

This tester is used to determine the durability of reciprocating motions for the slide fastener under the lateral and longitudinal strength.

Specification	
Reciprocating Range	75mm
Width of Lateral Grippers	25mm
Weight of Longitudinal clamps	0.28 ~ 0.34kg
Counter	LCD, 0 ~ 999,999
Dimension (WxDxH)	28 x 55 x 66cm
Weight	35 kg
Power	1ph, AC 220V, 3A

Order No.	Type	Description
KH0000021	**GT-7518**	Slide Fasteners Reciprocating Tester

ROSS FLEXING TESTER

ASTM-D1052, ISO-4643, SATRA TM60

GT-7011-R

Specially test the flexendurence of rubber, sole, PU... etc materials

Specification	
Grips	6 sets, 12 it Can Test 12 Pieces
Counter	LCD, 0 ~ 99,999,999
Dimension (WxDxH) (cm)	78 x 48 x 44
Weight (kg)	56
Power	1ph, AC 220V, 3A
Option Item	Needle or Plane Type Puncher

Order No.	Type	Description
KH0000200	**GT-7011-R**	Ross Flexing Tester

DIN ABRASION RESISTANCE TESTER

DIN-53516, ISO-4649, GB/T9867, SATRA TM174, BS-903, JIS-K6264

▶ ***GT-7012-D***

This tester is used to determine the abrasion characters

Cutting tool

Drilling Machine

Specification	
Weight	2.5N, 5N
Length of Drum (mm)	460
Abrasion Path	40m/20m Correspond To Rotations of The Drum
Dimension (WxDxH) (cm)	70 x 30 x 30
Power	1ph, AC 220V, 3A
Weight (kg)	61

Order No.	Type	Description
KH0000263	**GT-7012-D**	Din Abrasion Resistance Tester

MARTINDALE ABRASION TESTER

BS-3424, ASTM-D4966, DIN-53863, SATRA TM31, ISO-20344

▶ ***GT-7012-M***

This machine is ideal for determining the abrasion resistance of upper, lining, socking and similar types of shoe materials, particularly those made of fabric

Specification	
Load (gr)	595, 795
Counter	LCD, 0 ~ 999, 999
Dimension (WxDxH) (cm)	50.5 x 56.5 x 31.5
Weight (kg)	67
Power	1ph, AC 220V, 1.5A

Order No.	Type	Description
KH0000312	**GT-7012-M**	Martindale Abrasion Tester

AKRON ABRASION TESTER

BS-903, GB/T 1689, JIS~K6264, CNS-743

▶ ***GT-7012-A***

This tester is designed to use together with a special balance for testing the abrasive consumption for the rubber products such as sole, tire, belt of tank,..etc

Specification	
Specimen Slanted Range	0 ~ 35°
Counter	LCD, 0 ~ 99,999,999
Dimension (WxDxH) (cm)	57 x 52 x 45
Weight (kg)	57
Power	1ph, AC 220V, 3A

Order No.	Type	Description
KH0000032	**GT-7012-A**	Akron Abrasion Tester

TABER TYPE ABRASION TESTER

GOTECH

DIN-53109, 52347, TAPPI-T476, ASTM-D1044, D3884, ISO-5470-1

▶ ***GT-7012-T***

Use for cloth, paper, paints, plywood, leather, tile glass, rubber etc. The testing method is executed to make specimen abraded by a pair of grinding wheels under the specified load.

Specification	
Load (gr)	250, 500, 1000
Counter	LCD, 0 ~ 999, 999
Dimension (WxDxH) (cm)	53 x 32 x 31 + Vacuum Cleaner
Weight (kg)	18 (w/o Vacuum Cleaner)
Power	1ph, AC 220V, 10A
Optional accessory	Trim Machine of Grinding Wheel

Order No.	Type	Description
KH0000033	**GT-7012-T**	Taber Type Abrasion Tester

UNIVERSAL WEAR TESTER

AATCC-119 and 120, ASTM-D3886, D3514, D3885, DRAFT 20-0-70

▶ ***GT-7012-S***

This tester is a multifunction and precision instrument for measuring the abrasion durability, flex wear and edge wear of the specimen as paper, plastics, rubber, textiles, leather..., etc

Specification	
Tension Weight (lb)	2 ~ 1/2, 2 ~ 1, 1 ~ 2
Head Weight (lb)	2 ~ 1/2, 2 ~ 1
Pressure Range (psi)	1 ~ 9
Table Stroke	approx. 1"
Counter	0 ~ 99,999.
Timer	30 min
Dimension (WxDxH) (cm)	31 x 65 x 57
Weight (kg)	68
Power	1ph, AC 220V, 6A

Order No.	Type	Description
KH0000181	**GT-7012-S**	Universal Wear Tester

Kawan Lama #1 Commercial & Industrial Supply Company

DENSICOM TESTER

GT-7190

This tester is used for testing the density of the shoe sole made from rubber, plastic and EVA foam rubber.

Specification	
Capacity (gr)	1000
Display Acuracy	± 1%
Volume of Water Tank (LxWxH) (mm)	500 x 145 x 300
Stroke (mm)	250
Grips	Insert x1, Clip x1
Printing	PL-16 by PL-16 dot Matrix Printer
Weight (kg)	52
Dimension (WxDxH) (cm)	58 x 40 x 85
Power	1ph, AC 220V, 50/60Hz

Order No.	Type	Description
KH0000400	**GT-7190**	Densicom Tester

LEATHER SOFTNESS TESTER

GT-303

This tester is used to ensure that the leathers in the same pack are of a similar softness or assess that the softness across a skin or hide in everywhere is uniform.

Specification	
Load	530 ± 10g 500gr Drived By Miniature Pneumatic Damper
Dial (mm)	0.1 ~ 10 (0.1 ~ 7.6)
Dimension (WxDxH) (cm)	13.6 x 48.5 x 16.8
Weight (kg)	5.3

Order No.	Type	Description
KH0000433	**GT-303**	Leather Softness Tester

LEATHER-CRACKING TESTER *Adiads GE22, DIN 53325*

GT-7072

It's used for testing the cracks index of various vamps and thin leather.

Specification	
Dia. of Specimen (mm)	ø 48
Specimen Dia after Grip (mm)	ø 25
Reading Range (mm)	0.05 ~ 25
Dimension (cm)	ø 7, 15 (H)
Weight (kg)	1.3

Order No.	Type	Description
KH0000264	**GT-7072**	Leather-Cracking Tester

VELCRO FATIGUE TESTER

DIN-3415, SATRA PM123

GOTECH

GT-7082-E

It is used for testing the peel and shear strength of touch and close fasteners.

Specification	
Counter	LCD, 0 ~ 99,999,999
Motor	AC 1/8 HP Variable Frequency Motor
Dimension (WxDxH) (cm)	70 x 47 x 60
Weight (kg)	51
Power	1ph, AC 220V, 3A

Order No.	Type	Description
KH0000376	**GT-7082-E**	Velcro Fatigue Tester

BALLY LEATHERS FLEXING TESTER

BS-3144, JIS-K6545

GT-7071

Place the specimen in position and bend it repeatedly until it breaks.

Specification	
Grips (optional)	(A) 6 sets, (B) 12Sets
Specimen (mm)	70 x 45
Counter	LCD, 0 ~ 999,999
Dimension (WxDxH) (cm)	50 x 58 x 30
Weight (kg)	(A) 60 (B) 78
Power	1ph, AC 220V, 3A

Order No.	Type	Description
KH0000079, KH0000038	**GT-7071**	Bally Leathers Flexing Tester

DRYING OVEN

▶ *GT-7024*

Dry bake and preheat various materials and specimen.

Specification		
Model	GT-7024-A1	GT-7024-A2
Temp.	Room Temp. ~ 200°C or 300°C	
Interior (WxDxH)	40 x 40 x 45cm	50 x 50 x 60cm
Dimension (WxDxH)	91 x 55 x 100cm	100 x 65 x 114cm
Weight	174kg	234kg
Power	1ph, AC 200V, 14.5A	1ph, AC 200V, 9A

Order No.	Type	Description
KH0000277, KH0000046	**GT-7024-A1**	Drying Oven
KH0000488	**GT-7024-A2**	Drying Oven

AGING OVEN

GOTECH

▶ *GT-7017*

It's to accelerate the deterioration of vulcanized rubber and plastic for figuring the changing rate of pulling and elongation before/after heating.

Specification		
Model	GT-7017-M	GT-7017-L
Interior	40 x 40 x 45 cm	50 x 50 x 60 cm
Temperature	Room Temp. ~ 200°C or 300°C (Optional)	
Dimension (WxDxH)	91 x 55 x 100 cm	100 x 65 x 114cm
Weight	179kg	251kg
Power	1ph, AC 220V, 22A	

Order No.	Type	Description
KH0000039	**GT-7017-M**	Aging Oven
KH0000137	**GT-7017-L**	Aging Oven

DISCOLORATION METER *ASTM-D1148, HG/T3689*

▶ *GT-7035-UA*

GT-7035-UA simulates the circumstances of sunshine radiation to test the resistance to discoloration of shoes materials

Specification	
Light Source	Sunlamp x1
Temp.	Max. . 120°C
Heating Method	Hot-Air Circulation
Heat Reserving Material	Glass Fiber
Timer	LED, 0 ~ 999hr
Interior	50 x 50 x 60cm
Dimension (WxDxH)	100 x 65 x 117cm
Weight	200kg
Power	1ph, AC 220V, 16A

Order No.	Type	Description
KH0000203	**GT-7035-UA**	Discoloration Meter

Kawan Lama #1 Commercial & Industrial Supply Company

OIL BATH

GOTECH

GT-7040-L ISO-1817, ASTM-D471, DIN-53521

Specially test the heat-endurance of rubber products such as oil seal, oil-protection coil under oily environment.

Specification	
Model	**GT-7040-L**
Temp.	Room Temp. ~300°C
Test Cup	6Sets
Mixer Motor	40W
Interior (cm)	26 x 18 x 28.5
Dimension (WxDxH cm))	51 x 35 x 55.5
Weight (kg)	47
Power	ϕ 1 , AC 220 V, 12A

Order No.	Type	Description
KH0000058	**GT-7040-L**	Oil Bath

OZONE TESTER

OZ-0500 ASTM-D11149, D1171

This tester is designed to provide an auto-controlled ozone concentration environment for determining the ozone resistance performance of rubber. It adopts the ultraviolet rays absorption principle to design the monitor and bases on the Bill-Brown Law to inspect the ozone concentration automatically with chemical free.

Specification	
Model	**Oz-0500**
Ozone Monitor	Ultraviolet Ray Absorption
Ozone Range (pphm)	0 ~ 1000
Accuracy	3% of Reading, 4% Of Set-Point
Temp. Range (°C)	20 ~ 90
Temp. Accuracy (°C)	± 2
Ozone Generator	Ultraviolet Rays
Display Device	Instant Monitor Of Digital Type
Interior (WxDxH cm))	60 X 50 X 50
Dimension (WxDxH cm))	121 X 68 X 175
Power	1 , 220v, 15A
Accessories	Static/Dynamic Grips: 6 ets (Optional)

Order No.	Type	Description
KH0000023	**OZ-0500**	Ozone Tester

SALT SPRAY TESTER

ISO-9227, STM-B117, JIS-D0201, H8502, H8610, Z2371, GB/T10125

GT-7004-M

The Salt Spray Tester is used to test the anti erosion quality of the surface of all materials after the rust-proof of painting, coating, electroplating, anoding and rust-proof of greasing.

Specification		
Test Chamber		270l
Temp	Test	NSS.ACSS 35°C ± 1°C / CASS 50°C ± 1°C
	Air	NSS.ACSS 47°C ± 1°C / CASS 63°C ± 1°C
Interior Dimension (WxDxH) (cm)		90 x 60 x 50
Test Water (l)		25
Dimension (WxDxH) (cm)		153 x 93 x 130
Weight (kg)		92
Power		1ph, AC 220V, 20A

Order No.	Type	Description
KH0000023	**GT-7004-M**	Salt Spray Tester

PROGRAMMABLE TEMPERATURE AND HUMIDITY TESTER

GOTECH

GT-7005-A

This is also called environment tester for testing functions of heat endurance, cold-endurance, drought-endurance, wet-endurance, which is suitable for quality control of electronics, electric appliance food stuffs, automobiles, metal, chemicals plywood, etc..

Order No.	Type	Description
KH0000024	GT-7005-A7M	Programmable Temperature and Humidity Tester
KH0000362	GT-7005-A4S	
KH0000024	GT-7005-A2M	

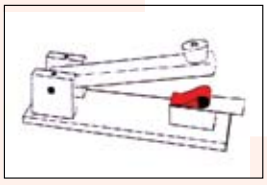
Specification			
Model	GT-7005-A7M	GT-7005-A4S	GT-7005-A2M
System	Balanced Temperature and Humidity Control System		
Temp. Range	-70 ~ +100°C (+150°C Optional)	-40 ~ +100°C (+150°C Optional)	-20 ~ +100°C (+150°C Optional)
Humid. Range	20 ~ 98% R.H		
Temp. Accuracy (°C)	±0.3°C		
Humid. Accuracy	±2.5% R.H		
Heating Up	-70 ~ +100°C Within 60 Min.	-40 ~ +100°C Within 45 Nin.	-20 ~ +100°C Within 35 Min.
Cooling Down	+20 ~ -70°C Within 90 Min.	+20 ~ -40°C Within 50 Min.	+20 ~ -20°C Within 45 Min.
Int. Dimension (WxDxH)	50 x 75 x 60cm	50 x 60 x 50cm	50 x 75 x 60cm
Ext. Dimension (WxDxH) (cm)	108 x 162 x 112	108 x 147 x 102	108 x 162 x 112
Interior Materials	Stainless Steel Plate (SUS 304)		
Exterior Materilas	Stainless Steel Plate (SUS 304)		
Insulation	Rigid Polyurethane Foam (Glass Wool at 150°C)		
Refrigeration System	Air Cooled, Hermetic Compressor, Cascade Refrigeration System	Air Cooled, Hermetic Compressor, Single Stage Refrigeration System	
Safety Devices	No Fuse Breaker, Refrigerator Over Load Relay, Refrigration High Pressure Switch, Over Temp, Protector, Protection Relay, Protection Fuse, Water Lever Protector, Overheat Protector, Alarm		
Accessories	Viewing Window, Shelves (Freely Adjustable 2pcs) Cable Port (ø 50mm) Chamber Lamp		
Weight (kg)	330	250	290
Power	3ph, AC220V ±10%, 60Hz	3ph, AC 380V/415±10%, 50Hz	

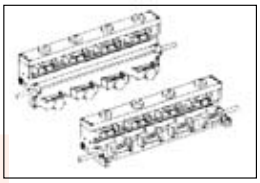
VERTICAL TYPE FREEZING TESTER ASTM-D1790, D1593, JIS-K6545

GT-7006-V

Purpose	Strike Specimen For Inspection Of Cracks
Dimensiom	35.5 x 10.3 x 12cm
Weight	9 kg
Ref. spec.	ASTM-D1593

Sampling	Ross Flexing :16Pcs
Flexing Angle	90°
Counter	1Piece





REGULAR FLEXING / BENDING ACCESSORIES

GT-7006-1 (Striker)

GT-7006-10 (Ross Flexing(8 sets))

This tester is especially used to test the bending/flexing durability of rubber materials, under the specified cold environment

Order No.	Type	Description
KH0000025	GT-7006-V 30	Vertical Type Freezing Tester
KH0000026	GT-7006-V 50	Vertical Type Freezing Tester

Specification		
Model	GT-7006-V 30	GT-7006-V 50
Temp. Range	Room Temp.~ -30°C	Room Temp.~ -50°C
Interior (WxDxH) (cm)	50 x 50 x 60	
Temp. Acurracy (°C)	± 0.5	
Cooling Down	Within 60 Min. (Approx)	
Refrigerantion System	Single Stage, Hermetic Compressor	Hermetic Compressor, Cascade Refrigeration System
Refrigerant	With Environmental Protection	
Inner Chamber/Grips	Stainless Steel (Interior: Imported Frosty Stainless Steel)	
Insulation (To Keep Warm)	Hard Polyurethane Foam	
Temp. Control	Sspr Balancing System with PID Control	
Temp. Controller	LED Display	
Counter	LCD, 0~999,999	
Viewing windows (WxD)	35.5 x 31.5 cm, 3-layer Vacuum Glasses	
Inner Lamp	PL Lamp, 13W	
Dimension (WxDxH) (cm)	105 x 89 x 151	
Weight (kg)	400	420
Power (approx.)	1ph, AC 220V	
Current (A)	28	40

Kawan Lama #1 Commercial & Industrial Supply Company

BC-4000 Series
More Accurate and Faster

Features :
- High precision
- High quality display
- Memory expansion
- Easy operation
- Hispeed printing

Pole Type

Hanging Type

BC-4000L2 Liquid crystal display

BC-4000S, Brightness fluorescent display

Bench Type

Advertising display

BC-4000ELED

BC-4000S display
High brightness fluorescent display

UNI-7 Series

The UNI-7 is equipped with a high-quality color LCD. The repeated display of a wide range of advertising screens on the UNI-7 stimulates the customer's willingness to buy, so you can expect an increase in sales

SR-2000 Series

Wraptech MPU-404
Price Labeller

Features :
- Price mark pre-packed items
- Re-marking items with price and barcode
- Printing new barcode

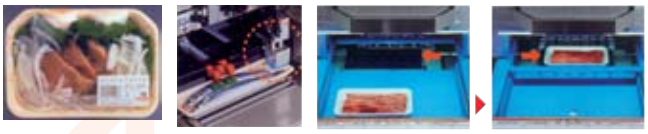
SUPERMARKET SOLUTION

Retail Scale

WM Series

Features :
- Easy to operate
- Improved function
- Ergonomic design

Basic Specifications
- Wrap weight : 0.04-3kg
- Max. weight : 0.04-15kg
- Power supply (Oceania) : 3-phrase circuit, AC400V±10% 50/60HZ
- Total height (Oceania) : Max. .1830mm (Display part excluded)
- Machine weight : 430kg or less (Standard WM-4000type)



Wrapping Unit	
Wrapping Speed	Max. 35 Packs/Min.
Wrapping Size	Width 95 – 360mm
	Depth 80 – 250mm
	Height 10 – 130mm (Tray Height: Max. 50mm)
Film Width	250 – 500mm
Film Roll Length	1000mm
Film Type	Polyolefine / Polyvinyl Chloride
Printer/ Applicator	
Label Width	47 – 80mm
Label Length	45 – 105mm
Label Direction	Vertical / Horizontal

INDSUTRIAL SCALE

Table Top Scale

IPC Electronic Digital Scale

A Versatile Scale with a Compact Body

Features :
- Compact and Versatile
- Dual power operation
- Large display panel

Display	LCD Panel			
Capacity	3kg/1g	6kg/2g	15kg/5g	30kg/10g
Platter Size	200 x 230mm		280 x 290mm	
Power Source	(2) D Size Batteries or AC Adapter			

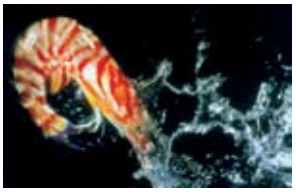
Logo Display panel
The LCD panel is large and positioned at an angle for easy viewing to prevent misreading. Adual display (front and back) model is also available on order

Large display and accessible buttons
The large 25mm LCD panel provides instant weight identifications and the optional dual display is ideal for retail applications

IPC-WP Electronic Digital Scale

Water Proof Type A

IPC-WP will lead you to a water world



Meeting the demands of an IP-65 rating, Ishida's iPC-WP is protected from dust and low pressure water.

Display	LED panel		
Capacity	3kg/1g	6kg/2g	15kg/5g
Platter Size	318 x 230mm		
Power Source	(2) D Size Batteries or AC Adapter		
Ip Protection	IP65		

INDUSTRIAL SCALE

Counting Scale

NCS Series

Display : VFD green color
Power source : AC 220V
Capacity : 3kg/ 0.5g, 6kg/ 1g, 12kg/ 2g, 30kg/ 5g

Preset average piece weight storage 15 preset keys allow storage of frequently used unit and tare weight values

INDUSTRIAL SCALE

Platform Scale

IG Series

Features :
- Simple to use tear function
- Easy-to-Read, Rotating display
- Check Weighing Function
- Auto Power Off Function

Type	IGX-60/150kg	IGB-60/150kg
Capacity	60kg/20g and 150kg/50g	
Platform Size	550 x 400mm	
Power	AC 220V	(2) D Size Batteries or AC Adapter
Display	VFD Blue Color Display	LCD Without Backlight

IW Serie

Water Resistant Type

IWX

IWB

Constructed of water-proof stainless steel, the versatile IW series is ideal for food processing applications – from agricultural and fishery industries to wholesaling and retailing industries

Type	IWX		IWB	
Capacity	150kg/20g	30kg/5g	150kg/20g	30kg/5g
Patform Size	350 x 530mm	350 x 350mm	350 x 530mm	350 x 350mm
Display	Fluorecent		LCD	
Power Source	AC 220V		(2) D Size Batteries or AC Adapter	
Body Design	Fully Stainless Stell			
Standard Interface	Standard with RS-232C Output		Without RS-232C Output	

IT Series

Feature :
- Triple Weighing Range
- Fluorescent and LCD Type Display available
- Low Power consumption : 700 hours by Battery
- Journal Printer
- Check Weighing and Counting

ITX

ITB

Type	ITX	ITB
Display	Fluorecent	LCD
Power Source	AC 100, 120, 220, 240V	(2) D Size Batteries or AC Adapter
Body Design	Fully Stainless Stell Body Except Indicator	

Type	ITX /B-6	ITX /B-30	ITX /B-150
Capacity	6kg / 0.2g	30kg / 1g	150kg / 5g
	3kg / 0.1g	15kg / 0.5g	60kg / 0.2g
	1.5kg / 0.05g	6kg / 0.2g	30kg / 1g
Platform Size	200 x 250mm	330 x 310mm	380 x 530mm

IM-7000

Software Driven Indicator

It is the combination of indicator and scale for :
- Check weighing
- Counting
- Blend
- Management of Waste Disposal

The efficiency of using IM-7000 :
- No mistake of weighing
- Accurate instruction and easy operation
- Operation record and traceability

DAP-3000S Journal Printer

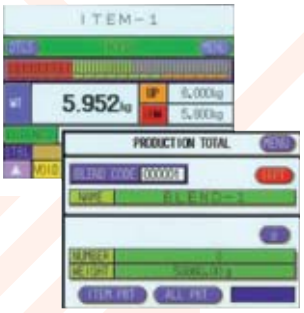
DAP-FAII Label Printer

RB-8000 Relay Box

Barcode Scanner

Display : Touch screen with keypad
Power source : AC 100, 120,220,240V
Body design : fully stainless steel
Features : standard with LAN connectivity

Weight Check System
Barcode attached to the products can be read with the scanner. Weight check and random check are automatically done



Data Control At Any Time
500 products ID (expandable to 16,000) can be registered. Lot number, product name, upper and lower limit value, supplier ID and other data needed on site can be registered. Any item needed can be displayed on the screen by one-touch operation. Total weight data can be obtained on the screen at any time. Inventory control and re-order is available with the PC network or stand alone mode.

TUNING-FORK BALANCE

ViBRA Measure the Future

▶ *Table Top Balance*

AJ Series

AJ(H)-820(C)E/1200(C)E

AJ(H)-2200(C)E~4200(C)E
AJ-6200(C)E~12K(C)E

AJ(H)-220(C)E~620(C)E

Data	Specification
Weighing Units	G, ct, oz, lb, ozt, dwt, GN, tl(Hong Kong), tl(Taiwan), tl(Singapore, Malaysia, Momme, Tola
Power Source	AC120/230V DC9V
Output	RS-232C (Standard)
Measuring System	Tuning-Fork Frequency Sensing (MMTS)
Tare	Full Weighing Range
Calibration	With External Calibration Weight
Display	LCD (Height: 16.5mm)
Modes	Weighing, Counting, %

Model	AJ-220E	AJ-320E	AJ-420E	AJ-620E	AJ-820E	AJ-1200E	AJ-2200E	AJ-3200E	AJ-4200E	AJ-6200E	AJ-8200E	AJ-12KE
Capacity	220g	320g	420g	620g	820g	1200g	2200g	3200g	4200g	6200g	8200g	12000g
Readability	0.001g	0.001g	0.001g	0.001g	0.01g	0.01g	0.01g	0.01g	0.01g	0.01g	0.1g	0.1g
Pan size	Ø118mm				170x142mm		180x160mm					

Table Top Balance

CJ Series

Heavy Duty Tunning-Fork Balance

Conecting to outside devices

Minimize the response time to keep the indication stable

Feature :

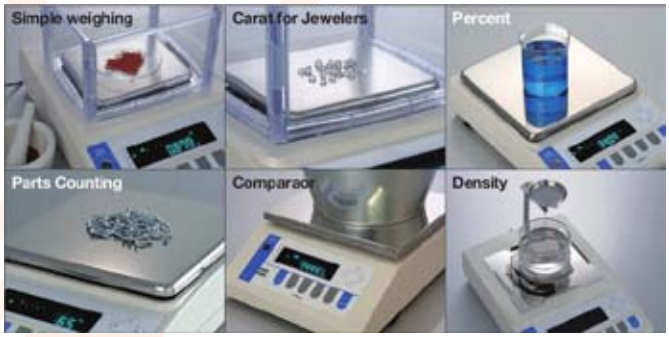
- Water proof
- Fine-particle proof
- Stainless steel case

Model	CJ-220E	CJ-320E	CJ-620E	CJ-820E	CJ-2200E	CJ-3200E	CJ-6200E	CJ-8200E	CJ-15KE
Capacity	220g	320g	620g	820g	2200g	3200g	6200g	8200g	15000g
Readability	0.01g	0.01g	0.01g	0.01g	0.1g	0.1g	0.1g	0.1g	1g
Pan Size	140mm dia.				190x190mm				

LN Series

Sophisticated Balance, the Professional's Choice

VIBRA LN series always offers you the complete weighing solution. The capacity ranges from 220g to 31kg, the readability from 1mg to 0.1g. The advantages like quick response, clear flourescent display, tough housing, stylish dsign... VIBRA LN series can be suitable for every occations from laboratory, light and heavy industry, and jewelers.



Connection to the outside devices

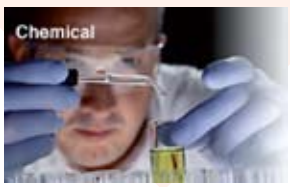
VIBRA LN series has RS232C as standard (two output) and can be easly connected to the printer, PC. You can keep the weighing results in the printed and/or electric froms.

External Weight Models

Specifications														
Model	LN 223	LN 323	LN 423	LN 623	LN 1202	LN 2202	LN 3202	LN 4202	LN 6202	LN 8201	LN 12001	LN 15001	LN 21001	LN 31001
Capacity	220	320	420	620	1200	2200	3200	4200	6200	8200	12000	15000	21000	31000
Readability	0.001				0.001					0.1				
Pan Size	120 140mm				200 200mm					200 200mm			220 250mm	

SJ Serie

Aaccurate and Compact



Features :

- Quick response and accurate
- User friendly operation
- OIML (clas II) approved

Model	SJ-220E	SJ-420E	SJ-620E	SJ-1200E	SJ-2200E	SJ-4200E	SJ-6200E	SJ-12KE
Capacity	220g	420g	620g	1200g	2200g	4200g	6200g	12000g
Readability	0.01g	0.01g	0.01g	0.1g	0.1g	0.1g	0.1g	1g
Pan size	Ø140mm			170x142mm	180x160mm			

TUNING-FORK BALANCE

ViBRA Measure the Future

Table Top Balance

HTR Series
Analytical Balance

Model	HTR-220E
Capacity	220g
Readability	0.0001g
Repeatability	0.0001g
Non-Linearity	+ 0.0003g
Pan Size	Φ 80mm

Density determination mode
Density of solids or liquids is measured with optional density measurement kit

Anti-electrostatic 360 degree transparent windshield

DME Series
Electronic Density Meter

The water temperature measuring and storing

Weigh a sample in the water, and storing

Weigh a sample in the air, and storing

The relative density and volume indication

Model	DME – 220E	DME – 220 HE
Capacity (Density Measurement)	220g	
Capacity (Weight Measurement)	600g	
Readability	0.01g	
Measuring Method	Underwater Replacement Method (JIS Z8807)	
Measuring (Density)	0.01	0.001/0.01
Readability (Volume)	0.01cm3	0.001/0.01cm3
Hydrometer Option	Not-Available	Option
Data Store Condition	Fixed Condition	3 Type Selectable
Calibration	External Ref.Weight	Built-in Weight
Printer Output	Standard	
Size	230x180x170	

TUNING-FORK BALANCE

Platform Balance

HJ-K Series
Precision Platform Balance

WATER & DUST PROOF
IP65 IECS/JIS
Compliant

Durable!!
Washable!!
High Resolution!!

Separate type (without pole)
Cable length is 2m.
5m or 10m cable is available under factory option.
Separate type
Separate type with display directly attached to weighing unit

Model	Pole type	HJ-17KE	HJ-22KE	HJ-33KE	HJ-62KDE
	Separate type	HJ-17KSE	HJ-22KSE	HJ-33KSE	HJ-62KDSE
Capacity		17000g	22000g	33000g	6200/62000g
Readability		0.1g	0.1g	0.1g	0.1g/g
Repeatability(s)		0.1g			0.7g
Non-Linearity		+ 0.3g			+ 1g
Pan-Size		400x350mm			

Platform Balance

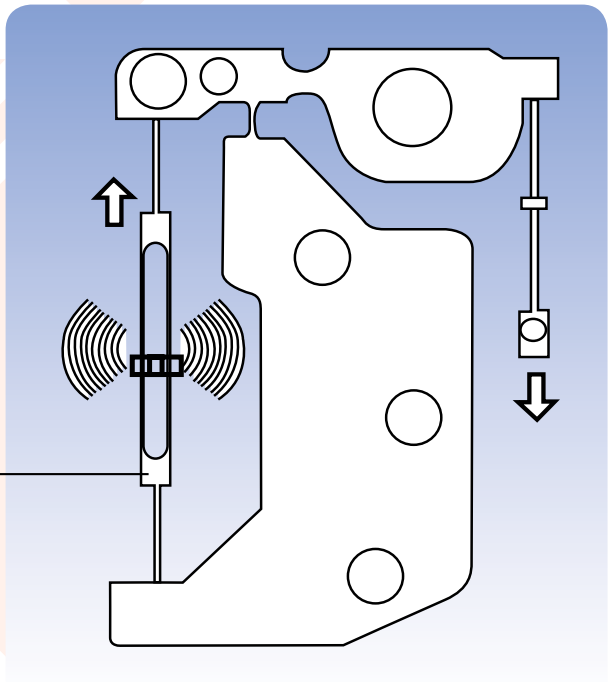
II Series

Ex-Proof Tuning-Fork Platform Balance

	IIA	IIB	IIC
T1	Aceton, Benzene, Ammonia, Methanol, Ethane, Tolune, Propane, Methane, Acetid Acid	Cake-Oven Gas, Acrylonitrilr, Hydrocyanic Acid, Cyclopropane	Hydrogen
T2	Ethanol, Butanol, Butane, Methyl, Methacrylate	Ethyilene, Ethlene Oxide, Ethyl Acrylate	Acethylene
T3	Gasoline, Hexane, Pentane	Acrylaldehyde, Dimethyl Ether	
T4	Acetaldehyde, Trimethylamine	Ethyl Methl Ether, Diethyl Ether	
T5			Carbon Disulfide
T6	Ethyl Nitrite		Ethyl Nitrite

Model	GZII-2000Ex	GZII-6000Ex	GZII-12KEx	GZII-30KEx	GZII-60KEx	GZII-60KFEx	GZ-100KFEx	GZII-200KFEx
Capacity	2000g	6000g	12000g	3000g	60000g	60kg	100kg	200kg
Readability	0.01g	0.1g	0.1g	1g(5g)	1g	0.002kg	0.005kg	0.01kg
Pan Size	170mm dia.	250x202mm		360x326mm		395x610mm		

WEIGHING MACHINE



What makes the tuning-fork sensor so precise?

The tuning-fork sensor measures force or mass by gauging changes in oscillation frequency when a load is applied to a long, narrow vibrator, and it digitally outputs the readings.

Unlike load cell or electromagnetic systems, the tuning-fork sensor does not rely on material distortion, electromagnetic force, heavy power consumption, or A/D converters, so its inherent margin of error is extremely small, and its high precision can be maintained for a long time.

Comparasion With Other Sensors	Tuning-Fork	Load Cell	Electromagnetic
Long-Term Stability (Span Drift Per Year)	1/200,000	1/10,000	1/50,000
A/D Converter	Unnecessary (Digital Output)	Necessary (Analog Output)	
Power Consumption	Minute (1/10 of Load Cell)	Low	High
Noise-Proof	High	Low	Middle
Warm-Up	Unnecessary	Necessary	

Check-Weigher

Check-weigher for wide application

Model	Weighing Capacity	Minimum Graduation	Weighing Speed (Max.)
DACS-W-003	300g	0.1g	330WPM
Dacs-W-003-Mb (With Metal Detector)			
DACS-W-012	1200g	0.1g	270WPM
DACS-W-012-MB (With Metal Detector)			

Check-weigher for medium-weight products

Model	Weighing Capacity	Minimum Graduation	Weigh-ing Speed (Max.)
DACS-W-030	3000g	0.5g	210WPM
DACS-W-030-MB (With Metal Detector)			
DACS-W-050	5000g	1.0g	130WPM
DACS-W-050-MB (With Metal Detector)			

Metal Detector

Detection Sensitivity (Max.)	Aperture Height (Max.)
Fe: Ø0.4mm; SUS: Ø0.7mm	80mm, 120mm, 180mm

X-Ray Inspection System

Model	X-ray output (Max.)	Inspection room
IX-G-2450/2480	150w/280w	L : 20 – 450mm
		W : up to 240mm
		H : up to 120mm
IX-G-4080	280w	L : 20 – 450mm
		W : up to 400mm
		H : up to 150mm

IMP-3000
Parts Packer

By connecting IMP-3000 with auto weighing and counting machine, production efficiency can be increased and labor cost can be reduced. We can find the business chance at customer's place.

Connection with other equipment is very easy by relay output and sequencer.

Bag Width / Length	Packing Speed (Max.)
W : 80 / 150 / 230 / 300	18 Bags/Min.
L : 70-400mm	

Static Type

MS-1000
Measure Station

Measurement Range/Minimum Graduation (cm)	**Length**	10.0cm ~ 100cm / 0.5cm
	Width	20.0cm ~ 70.0cm / 0.5cm
	Height	3.0cm ~ 70.0cm / 0.5cm
Measuring Sensor		Infrared Light(L) and Ultrasonic (W,H)
Weighing Range		0.1kg ~ 60kg / 0.02kg, 0.05kg
Weight Sensor		Load Cell
Measure Time		3 Seconds Max.
Data Output		EIA RS-232C Bi-Directional
Power		AC100V to AC230V/1pH/50Hz/60Hz, 200VA Max.
Weight		200kg

TM-560
Table Measurement

Barcode Reader

Model		**CubicScan 30**	**CubicScan 50**	**CubicScan 100**
Measure-ment range	Length	2.5 to 38cm	1.3 to 30cm	1.3 to 61cm
	Width	2.5 to 38cm	1.3 to 30cm	1.3 to 61cm
	Height	0.3 to 10cm	1.3 to 46cm	1.3 to 91cm
Measurement Increment		L & W: 0.05cm, H: 0.01cm	0.2cm	0.2cm/0.5cm
Weight Capacity		5kg	14kg	68kg / 91kg
Weight Increment		0.002kg	0.005kg	0.02kg / 0.05kg

HIGH SPEED AUTOMATIC LABELER

L-2000 AT

Method	Cylinder	Air jet
What To Print	Carton Box	
Direction	Up/Side	
Accuracy	Accuracy: W112mm X L80mm Label With Stop.	
Measurement	14kg	68kg / 91kg
Measurement	0.005kg	0.02kg / 0.05kg

DIGITAL MULTIMETER

EXTECH INSTRUMENTS A FLIR COMPANY

EX570 CAT IV Industrial MultiMeter + IR Thermometer

Features:

- Patented built-in non-contact IR Thermometer design with laser pointer for locating hot spots
- True RMS CAT III-1000V, CAT IV-600V rated with 0.06% basic DCV accuracy
- Diode open circuit voltage of 2.8V DC
- Heavy duty Double molded, water resistant package
- Large backlit 40,000 count LCD with 40-segment bargraph
- Memory for storage and recall of three measurements
- Type K thermocouple contact temperature measurements
- Features include HOLD, RELATIVE and PEAK HOLD
- Min, Max. and Average recording
- Auto power off with disable feature
- Capacitance, Frequency, Diode and Continuity functions
- Complete with double molded test leads, magnetic hanging strap, general purpose Type K bead wire temperature probe, case, and 9V battery

Specification	
Display Counts	40,000 count
Basic Accuracy	0.06%
DC/AC Voltage	0.01mV to 1000V
DC/AC Current	0.01µA to 20A
Resistance	0.01Ω to 40MΩ
Capacitance	0.001nF to 10,000µF
Frequency	0.0001Hz to 40MHz
Temperature (Type K)	-50 to 1382°F (-45 to 750°C)
IR Temperature	-22 to 1022°F (-30 to 550°C)
Field of View	30:1 ratio
Duty Cycle	0.01 to 99.99%
Diode (2.8V)/Continuity	Yes
ETL/CE approved	Yes

Order No.	Type	Description
EX0000002	**EX570**	CAT IV Industrial MultiMeter + IR Thermometer

EX500 Series Heavy Duty Industrial MultiMeter

Features:

- Common Features:
- 1000V input protection on all functions
- Dual sensitivity frequency functions
- Large backlit LCD
- Diode open circuit voltage of 2.8V DC
- Auto power off with disable feature
- Complete with double molded test leads, magnetic hanging strap, Type K bead wire temperature probe (EX505, EX520 and EX530), carrying case, and one 9V battery

Models: EX530 (True RMS)

- 40,000 count—highest resolution
- 0.06% accuracy
- Min/Max. /Relative/Data Hold
- 20A Max. current
- Peak Hold (AC only)

Models: EX505 (True RMS)

- 4,000 count
- 0.5% accuracy
- Data Hold and Relative
- 10A Max. current

Specification	EX503	EX530
Display Counts	4,000 count	40,000 count
Basic Accuracy	0.50%	0.06%
DC/AC Voltage	0.1mV to 1000V	0.01mV to 1000V
DC/AC Current	0.1µA to 10A	0.01µA to 20A
Resistance	0.1Ωto 40MΩ	0.01Ωto 40MΩ
Capacitance	0.01nF to 100µF	0.001nF to 40mF
Frequency	0.001Hz to 10 MHz	0.001Hz to 100MHz
Temperature (Type K)		(-45 to 750°C)
Duty Cycle	0.1 to 99.9%	0.1 to 99.90%
Diode (2.8V)/Continuity	Yes	Yes

Order No.	Type	Description
EX0000003	**EX530**	HD Multimeter Waterproof 4000CT/TRMS/Temp
EX0000037	**EX505**	Heavy Duty Industrial MultiMeters

MN16A Compact Digital Mini MultiMeter

Features:

- Large easy to read digital display
- Measure AC and DC Voltage to 600V
- DC Current function to 10A
- Thermocouple Type K function for surface and air temperature measurements up to 750°C
- Resistance tests with Continuity and Diode functions
- Autoranging model (MN16) with AC Current, Capacitance and Frequency measurements
- Convenient mini size with protective rubber holster and tilt stand
- Data Hold locks reading in the display (MN16)
- Includes protective rubber holster, 9V battery (MN15), two AAA batteries (MN16), Test leads, and Type K thermocouple probe

Specification	
Display Counts	4,000 count
DC/AC Voltage	600V (0.1mV)
DC/AC Current	10A (0.1µA)
Resistance	40MΩ (0.1Ω)
Capacitance	100µF (0.01nF)
Frequency	5MHz (0.001Hz)
Temperature (Type K)	-20 to 750°C

Order No.	Type	Description
EX0000048	**MN16A**	Compact Digital Mini MultiMeters

Kawan Lama #1 Commercial & Industrial Supply Company

MA120 200A Mini Clamp Meters + Voltage Detector

Features:
- Measures 200A AC Current up to 100mA resolution
- 3% basic ACA accuracy
- 0.7" (18mm) jaw opening; 300MCM cable size
- 2000 count LCD display
- Non-contact AC Voltage detector (120/240VAC, 50/60Hz) via clamp tip
- Built-in white LED flashlight
- Measures Frequency up to 1kHz with 0.01Hz resolution
- Autoranging with Auto Power Off
- Data Hold (MA 120)
- Overload protection for all ranges
- Overrange and low battery indicators
- Complete with two AAA batteries

Specifications	
Display Counts	2,000 count
AC Voltage	Non-contact
DC/AC Current	200A
Frequency	1kHz (0.01Hz)

Order No.	Type	Description
EX0000045	**MA120**	200A Mini Clamp Meters + Voltage Detector

MA250 200A AC Clamp Meter + NCV

Features:
- Built-in non-contact voltage detector with LED alert
- 1.2" (30mm) jaw size for conductors up to 500mcm
- 4000 Count, backlit lcd display
- Multimeter functions include AC/DC Voltage, resistance, capacitance, Frequency, temperature, duty cycle, diode, and continuity
- Relative mode for capacitance zero, and Offset adjustment
- Data hold
- Auto power off
- Complete with test leads, temperature Probe (-30 to 300˚c), two AAA batteries, and carrying case

Specification	
Display Counts	4,000 count
AC Voltage	4.000V, 40.00V, 400.0V, 600V
DC Voltage	400.0mV, 4.000V, 40.00V, 400.0V, 600V
AC Current	20.00A, 200.0A
Resistance	400.0Ω, 4.000kΩ, 40.00kΩ, 400.0kΩ, 4.000MΩ, 40.00MΩ
Capacitance	40.00nF, 400.0nF, 40.00µF, 100.0µF
Frequency	10Hz to 10kHz
Temperature (Type K)	-20 to 760°C
Duty Cycle	0.5 to 99.0%
Diode and Continuity	Yes

Order No.	Type	Description
EX0000046	**MA250**	200A AC Clamp Meter + NCV

MA620 600A True RMS Clamp Meters + NCV

Features:
- True RMS for accurate readings of non-sinusoidal waveforms
- Built-in non-contact Voltage detector with LED alert
- 1.5" (40mm) jaw size for conduc tors up to 500MCM
- 6000 count, backlit LCD display
- Includes multimeter functions
- Relative mode for capacitance zero and Offset adjustment
- Data Hold, MIN/Max. , and Auto Power Off
- Complete with test leads, Type K bead wire temperature probe, 9V battery and carrying case

Specification	
Display Counts	6,000 count
AC Voltage	6.000V, 60.00V, 600.0V
DC Voltage	600.0mV, 6.000V, 60.00V, 600.0V
AC Current	60.00A, 600.0A
Resistance	600.0Ω, 6.000kΩ, 60.00kΩ, 600.0kΩ, 6.000MΩ, 60.00MΩ
Capacitance	40.00nF, 400.0nF, 4.000µF, 40.00µF, 400.0µF, 4000µF
Frequency	10Hz to 10kHz
Temperature (Type K)	-20 to 760°C
Duty Cycle	0.5 to 99.0%
Diode and Continuity	Yes

Order No.	Type	Description
EX0000047	**MA620**	600A True RMS Clamp Meters + NCV

CLAMP METER

EX840 CAT IV 1000A Clamp Meter + IR Thermometer

Features:

- Patented built-in non-contact IR Thermometer design with laser pointer
- True RMS Current and voltage measurements
- Peak hold captures inrush currents and Transients
- MultiMeter functions include AC/DC Voltage, resistance, Capacitance, frequency, diode, and continuity
- 1.7" (43mm) jaw opening for conductors up to 750MCM or two 500MCM
- 4000 count backlit display
- Features include data hold and Min/Max. and auto power off
- Autoranging with manual range button
- Complete with CAT IV test leads, 9V battery, Type K probe, pouch case, and Professional Test Lead Set

Specification	
Display Counts	4,000 count
AC/DC Voltage	0.1mV to 1000V
AC/DC Current	0.1 to 1000A
Resistance	0.1 to 40MΩ
Capacitance	0.001nF to 40,000µF
Frequency	0.001kHz to 4kHz
Temperature (Type K)	-20 to 760 °C
IR Temperature	-50 to 270 °C
Diode and Continuity	Yes

Order No.	Type	Description
EX0000038	**EX840**	CAT IV 1000A Clamp Meter + IR Thermometer

VOLTAGE DETECTOR

DV25 CAT IV AC Voltage Detector + Flashlight

Features:

- Non-contact detection of AC volt age in 2 ranges: 24 to 1000VAC 100 to 1000VAC
- CAT IV-1000V safety rating
- For use on 50/60Hz circuits
- Rugged double-molded housing
- Tip fits into outlets or against wire insulation testing
- Audible and visual voltage indication
- Built-in bright flashlight with on/off button
- Compact size with pocket clip
- Dimensions: 6.25 x 1" (159 x 25mm) Weight: 1.48oz (42g)
- Complete with two AAA batteries

Order No.	Type	Description
EX0000031	**DV25**	CAT IV AC Voltage Detector + Flashlight

40130 AC Voltage Detector

Features:

- Non-Contact detection of AC voltage from 100VAC to 600VAC
- For use on 50/60Hz circuits
- Flashing red LED light and push button on/off Audible beeper indicator
- Locate breaks in power cables
- Dims: 6 x 0.75 x 1" (152 x19 x 25mm) Wt: 2 oz (57g)
- Complete with convenient size with pocket clip, and two AAA batteries

Order No.	Type	Description
EX0000018	**40130**	AC Voltage Detector

WATER QUALITY METER

DO600 Waterproof ExStik® II Dissolved Oxygen Meter/Kit

Specification	
Do (Saturation Mode)	0 to 200.0%
Do (Concentration Mode)	0 to 20.00ppm (mg/L)
Temperature	(0 to 50°C)

Features:
- Convenient kit adds versatility on measuring dissolved oxygen in laboratories or out in the field with a 16ft (5m) extension cable and probe weight guard for taking easy measurements in tanks or streams
- Oxygen level displayed as % saturation from 0 to 200.0% or concentration from 0 to 20.00ppm (mg/l)
- Adjustable altitude compensation (0-20,000ft in 1,000ft increments)
- Adjustable salinity compensation from 0 to 50ppt
- Analog bargraph indicates trends
- Memory stores up to 25 data sets with do and temperature reading
- Self calibration on power up
- Data hold, auto power off, low battery indicator
- Waterproof to IP57
- Optional 3 ft (1m) or 16ft (5m) extension cable with probe weight.
- Do600 meter includes DO electrode, protective sensor cap, spare membrane cap, electrolyte, four 3v cr-2032 batteries, and 48" (1.2m) neckstrap.

Order No.	Type	Description
EX0000030	**DO600**	Waterproof ExStik® II Dissolved Oxygen Meter

PH100 Waterproof ExStik® pH Meter

Specification	
pH	0.00 to 14.00pH
Temperature	-5 to 90°C
Accuracy	±0.01pH, ±1°C

Order No.	Type	Description
EX0000012	**PH100**	Waterproof ExStik® pH Meter

Features:
- Flat surface electrode measures pH in liquids, semi-solids, and solids. No more electrode breakage or clogged junctions.
- RENEW indicator tells you when it's time to replace your electrode which eliminates guesswork
- CAL alert tells you it's time to recalibrate. Ensures accuracy.
- Memory records and recalls 15 sequentially tagged readings allowing detection of changes over time
- Analog bargraph displayed on LCD
- 1, 2 or 3 point calibration automatically recognizes buffer solutions. Order pH buffers separately.
- Automatic temperature compensation
- Simultaneous display of pH and temperature
- Display indicates when the reading is stabilized
- Data hold, auto power off and low battery indication
- Waterproof design (IP57) floats in water and protects the meter in wet environment
- Interchangeable probes available for chlorine and ORP
- Optional weighted base (EX006) holds plastic cup and ExStik® meter
- Complete with flat surface pH electrode, protective sensor cap, sample cup with cap, four 3V CR-2032 button batteries, and 48" (1.2m) neckstrap.

ExStik® Waterproof Fluoride Meter

Applications:
- Public water fluoridation control — fluoride is known to help prevent tooth decay while too much fluoride is known to be bad for the teeth
- The concentration recommended by the American Dental association is 0.7-1.2 ppm.
- The MCL established by the EPA is 4.0 ppm
- Fluoride is naturally occurring and in some areas in the US the natural level exceeds 4.0 ppm

Features:
- First fluoride meter with built-in automatic temperature compensation
- Fastest response fluoride meter (<1min)
- Easy use for field or laboratory fluoride testing
- Small sample/TISAB volume required for testing (10mL)
- In compliance with EPA method 340.2.(potentiometric ion selective electrode)
- Automatic electronic 1 or 2 point calibration with offset adjustment
- Memory stores 25 labeled readings
- Waterproof to IP57
- Large LCD simultaneously displays ppm of Fluoride, Temperature, and analog bargraph indicator
- Complete with electrode, TISAB reagent tablets, sensor cap, four 3V button batteries, and 48" (1.2m) neckstrap

Specification	Range	Max. . Resolu-tion	Basic Accuracy
ppm	0.1 to 10ppm	0.1ppm	±3% rdg
Temperature	32 to 140°F (0 to 60°C)	0.1°F/°C	±1.8°F/1°C
Dimensions	1.4x6.8x1.6" (36x173x41mm)		
Weight	7.4oz (210g)		

Order No.	Type	Description
EXZ000001	**FL700**	ExStik®II Waterproof Flouride Meter

WATER QUALITY METER

EXTECH INSTRUMENTS A FLIR COMPANY

Waterproof ExStik® II pH/Conductivity Meter

Features:

- Measures 5 parameters including conductivity, TDS, Salinity, pH, and temperature using one electrode
- 9 units of measure: pH, µS/cm, mS/cm, ppm, ppt, mg/L, g/L, °C, °F
- Analog bargraph indicates trends
- Memory stores up to 25 labeled readings
- Adjustable conductivity to TDS ratio from 0.4 to 1.0; 0.5 fixed Salinity ratio
- RENEW feature alerts user when electrode needs replacement
- Auto power off and low battery indicator
- Waterproof to IP57
- EC500 meter includes electrode, protective sensor cap, sample cup with cap, four 3V CR-2032 batteries, and 48" (1.2m) neckstrap. Order conductivity standards and pH buffers separately
- EC510 Kit includes EC500, 84µS/cm, 1413µS/cm, 12880µS/cm Conductivity calibration standards, pH buffer pouches (1 each of 4, 7,10pH plus rinse solution), weighted base, 3 sample cups with caps, and case — $19 savings

Specification	Range	Max. Resolution	Basic Accuracy
Conductivity	0 to 199µS/cm, 200 to 1999µS/cm, 2.00 to 19.99mS/cm	0.1µS/cm	±2%FS
TDS/Salinity	0 to 99.9ppm (mg/L), 100-999ppm (mg/L) 1.00 to 9.99ppt	0.1ppm (mg/L)	±2%FS
pH	0.00 to 14.00pH	0.01pH	±0.01pH
Temperature	23° to 194°F (-5 to 90°C)	0.1°F/°C	±1.8°F/1°C
Waterproof	IP57		
Memory	25 datasets		
Dimensions	1.4 x 7.3 x 1.6" (36 x 186 x 41mm)		
Weight	3.8oz (110g)		

Order No.	Type	Description
EXZ000002	**EC500**	Waterproof ExStik® II pH/Conductivity Meter

EARTH GROUND RESISTANCE TESTER

382252 Earth Ground Resistance Tester Kit

Features:

- Large dual display with backlight
- Test Hold function for easy operation
- Automatic Zero adjustment
- AC/DC voltage, resistance, and continuity
- Auto power off
- Overrange and low battery indication
- Complete with test leads, 2 auxiliary earth bars, carrying case, protective rubber holster and six 1.5V AA batteries

Specification	
Earth Ground Resistance ranges	20Ω/ 200Ω/2000Ω
Basic Accuracy	±(2%rdg+2d)
Resolution	0.01Ω/ 0.1Ω/1Ω
Test Current / Frequency	<2.5mA / 820Hz
AC Earth Voltage / Frequency	0 to 200VAC / 50 to 400Hz ±(0.8%rdg+3d)
DC Voltage	0 to 1000V ±(0.8%rdg+3d)
Resistance	0 to 200kΩ (±(1%rdg+2d))
Continuity	40Ω

Order No.	Type	Description
EX0000017	**382252**	Earth Ground Resistance Tester Kit

SOIL MOISTURE METER

Integrated 8" (20cm) Heavy Duty Probe

PRELIMINARY DATASHEET

Features:

- Soil moisture content measurement from 0 to 50%
- Easy one-hand operation
- Min/max. records minimum and maximum moisture readings
- Data hold to freeze reading on display
- Water resistant housing
- Replaceable heavy duty moisture probe (MO750-P)
- Complete with 4 x AAA batteries and sensor cap

Specifications	
Sensor Type	Integrated Contact Probe
Moisture Content	0 to 50%
Max. Resolution	0.1%
Dimensions	14.7 x 1.6 x 1.6" (374 x 40 x 40mm)
Weight	9.4oz (267g)

Order No.	Type	Description
EXZ000009	**MO750**	Soil Moisture Meter

Kawan Lama #1 Commercial & Industrial Supply Company

TACHOMETER

461920 Mini Laser Photo Tachometer Counter

Features:

- Make non-contact RPM measurements of rotating objects
- Use reflective tape on object to be measured and point the integral laser
- Memory button holds last reading and recalls min/max. readings
- Counter function counts up to 99,999 revolutions
- Easy to read large 5 digit LCD display
- Rugged double molded housing for bette grip
- Complete with 9V battery and reflective tape

Specification	
RPM range	2 to 99,999rpm
Count range	1 to 99,999rev (revolution)
Max. Target Distance	1.6ft (500mm)
Basic Accuracy	±0.05%
Resolution	0.1rpm, 1rev

Order No.	Type	Description
EX0000026	**461920**	Mini Laser Photo Tachometer Counter

RPM10 Combination Tachometer + IR Thermometer

Features:

- Built-in IR thermometer with laser measures remote surface temperature on motors and rotating parts
- Wide temperature range of -20 to 315°C
- Fixed 0.95 emissivity, 6:1 distance to target ratio
- Provides wide RPM (photo and contact) and Linear surface Speed (contact) measurements
- Accurate to 0.05% with Max. resolution of 0.1rpm in either photo or contact mode
- Large 0.4" (5 digit) LCD display
- Non-contact Photo tachometer uses a Laser for greater measuring distance up to 6.5ft (2m)
- Contact tachometer for RPM and surface speed measurements
- Memory stores min/max./last
- Characters on display reverse direction depending on mode
- Double molded

Specification	
Display counts	99,999 count LCD
Range (rpm)	Photo: 10 to 99,999/ Contact: 0.5 to 20,000
ft/Min.	0.2 to 6560 (Contact)
Basic Accuracy	±(0.05%rdg+1 digit)
Max. rpm Resolution	0.1rpm
Temperature (IR)	-20 to 315°C

Order No.	Type	Description
EX0000054	**RPM10**	Combination Tachometer + IR Thermometer

MEGOHMETER

Analog Insulation Tester

Features:

- Large easy to read analog display
- Three test voltages 250V, 500V, and 1000V
- Insulation resistance to 400MΩ
- Lock power On feature for extended test times
- Automatic discharge circuit
- Measures continuity to 3Ω, resistance to 500Ω, and AC Voltage to 600V
- 1.3mA short circuit current
- Complete with test leads, 6 x AA batteries, hanging strap, and hard carrying case

Specification	
Test Voltage	250V/500V/1000V
Insulation Resistance	0 to 100MΩ, 0 to 200MΩ, 0 to 400MΩ (±5% of scale)
AC Voltage	0 to 600V (±5% of scale)
Resistance	1 to 500Ω (±3% of scale)

Order No.	Type	Description
EXZ000003	**380320**	Analog High Voltage Megohmmeter

Power Supply

Quad Output DC Power Supply

Features:

- Two 0 to 30V/0 to 5A outputs with selectable Constant Voltage and Constant current modes
- Outputs up to 60V in series mode or 10A in parallel mode
- Two auxiliary outputs with fixed current of 3 to 6.5V/3A and 8 to 15V/1A
- Overload and short circuit protection
- Complete with power cord and 4 pairs of test leads (banana plug to alligator clip) Specifications

Specification	
Output Voltage (4)	0 to 30V, 0 to 30V, 3 to 6.5V,8 to 15V
Output Current (4)	0 to 5A, 0 to 5A, 3A (fixed), 1A (fixed)
Load Voltage Regulation	≤1x10-4 + 3mV
Load Current Regulation	≤2x10+ 3mA
Ripple and Noise	<0.5mVrms
Power	100 to 240VAC,50/60Hz

THERMOMETER

EXTECH INSTRUMENTS A FLIR COMPANY

42509 IR Thermometer with Color Alert

Features:

- Great for processes that require temperature control and monitoring
- Fast and accurate measurements at 12" where the two lasers converge with 12:1 field of view
- Measures up to 510°C
- Blue backlit dual LCD display changes to red backlit when reading exceeds high or low set points
- Exclusive 150 millisecond instantane ous response for capturing spikes in temperature
- Max. mode captures and holds raidly changing temperatures
- Lock function for continuous readings (disables auto power off)
- Adjustable emissivity increases measurement accuracy for different surfaces
- Double molded housing
- Complete with case and 9V battery

Specification	
Laser Convergence Distance	12" (30.5cm)
Range	-20 to 510°C
Repeatability	±0.5% or 1°C
Basic Accuracy	±1% of rdg + 1°C
Max. Resolution	0.1°C
Emissivity	0.10 to 1.00 Adjustable
Field of View (Distance to Target)	12:01:00 PM

Order No.	Type	Description
EX0000009	42509	IR Thermometer with Color Alert

IR400 Mini IR Thermometer

Features:

- Backlighting illuminates display for taking measurements at night or in areas with low background light levels
- Automatic data hold when trigger released
- Min/max. hold
- Fixed 0.95 emissivity covers 90% of surface applications
- Auto power off
- Complete with 9V battery and case

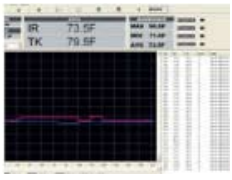
Specification	
Range	-20 to 332°C
Basic Accuracy	±2% of rdg + 2°C
Max. resolution	0.1°C
Emissivity	0.95 fixed
Field of View (Distance to Target)	08:01:00 AM

Order No.	Type	Description
EX0000044	IR400	Mini IR Thermometer

Dual Laser InfraRed Thermometer

Features:

- Great for processes that require High 50:1 distance to target ratio measures smaller surface areas at greater distances
- Dual Laser Targeting indicates ideal measuring distance when two laser points converge to 1" target spot
- Type K thermocouple input from -58 to 2498°F (-50 to 1370°C)
- Lock function for continuous readings
- White backlit multifunction LCD display with bargraph
- Fast 100 millisecond response time
- Max. /MIN/AVG/DIF feature displays highest, lowest, average, and Max. minus Min values
- Adjustable emissivity increases measurement accuracy for different surfaces
- Adjustable high/low set points with audible alarm alerts user when temperature exceeds the programmed set points
- USB interface includes software
- Tripod mounting feature
- Complete with Type K temperature probe, USB cable and software, tripod, carrying case and 9V battery



Specifications	42570
Laser Convergence Distance	50" (127cm)
IR Range	-58 to 3992°F (-50 to 2200°C)
Repeatability	±0.5% or 1.8°F/1°C
Basic Accuracy	±(1% of rdg + 2°F/1°C)
Max. Resolution	0.1°F/°C
Emissivity	0.10 to 1.00 Adjustable
Field of View (Distance to Target)	50:1
Type K Range	-58 to 2498°F (-50 to 1370°C)
Memory	Manually Store/Recall 100 readings
Dimensions	8x6.1x2" (204x155x52mm)
Weight	11.3oz (320g)

Order No.	Type	Description
EXZ000004	42570	50:1 Dual Laser InfraRed Thermometer

Kawan Lama #1 Commercial & Industrial Supply Company

Digital InfraRed Video Thermometer

Features:
- Dual laser indicates ideal measuring distance where the two laser points converge to a 1" target spot
- Fast 150 millisecond response time
- Color LED bargraph for viewing trends
- Type K thermocouple input
- Air Temperature and relative humidity measurement
- Adjustable emissivity increases measurement accuracy for different surfaces
- Adjustable high/low set points with audible alarm alerts user when temperature exceeds the programmed set points
- Max. /MIN/AVG/DIF functions
- Trigger lock function for continuous readings
- USB interface
- Auto power off
- Double molded housing
- Complete with microSD card, general purpose type K bead wire probe, USB cable, rechargeable 3.7V battery, and carrying case

Specification	
Laser Convergence Distance	50" (127cm)
IR Temperature Range	-58 to 3992°F (-50 to 2200°C)
Repeatability	±0.5% or 1.8°F/1°C
Basic Accuracy	±(1% of rdg + 4°F/2°C) (31 to 212°F)
Max. resolution	0.1°F/°C
Emissivity	0.10 to 1.00 Adjustable
Field of View (Distance to Target)	50:1
Type K Temperature Range	-58 to 2498°F (-50 to 1370°C)
Air Temperature Range	32 to 122°F (0 to 50°C)
Relative Humidity	0 to 100%RH
LCD Display	2.2" TFT 320 x 240 pixels
Camera	640 x 480 pixels
Dimensions	7.4x6.0x2.2" (189x152x57mm)
Weight	17.4oz (494g)

Order No.	Type	Description
EXZ000005	VIR50	Dual Laser Video IR Thermometer

445702 Hygro-Thermometer Clock

Features:
- Attractive design for desktop or wall mounting
- Three LCD displays of Time, temperature and humidity
- Max./min memory with reset for temperature and humidity
- Switchable °C or °F temperature display
- 12/24 hour Clock with alarm function
- Complete with built-in tilt stand, wall mounting bracket and AAA battery

Specification	
Humidity Range	10 to 85%
Basic RH Accuracy	± 6%
Temperature Range	-10 to 60°C
Basic Temperature Accuracy	1°C

Order No.	Type	Description
EX0000022	445702	Hygro-Thermometer Clock

445815 Hygro-Thermometer Humidity Alert w/Dew Point

Features:
- Large, easy-to-read triple LCD displays % relative humidity, temperature and dew point
- %RH audible and visual alarms, with adjustable set points, alert when humidity exceeds set limit
- Probe clips onto meter or extends on 18" (457mm) cable
- Max./min with reset function
- Rear calibration adjustment pot for humidity and temperature (available with NIST certification and optional calibration standards)
- Complete with built-in stand, wall mount bracket, remote sensor and 2AAA batteries; optional calibration salt bottles model RH300-CAL

Specification	
Humidity	10 to 99%
Temperature	-10 to 60°C
Basic Accuracy	±4%RH; ±1°C

Order No.	Type	Description
EX0000024	445815	Hygro-Thermometer Humidity Alert w/Dew Point

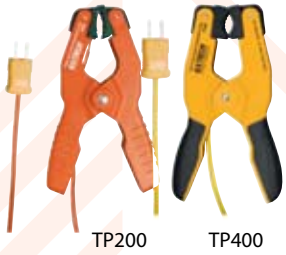
THERMOMETER

EXTECH INSTRUMENTS A FLIR COMPANY

4-Channel Datalogging Thermometer

Features:

- 4-Channel datalogging with 6 thermocouple types (J, K, E, T, R,S) and 2-channel datalogging with RTD (Pt100Ω) probes
- Displays [T1, T2, T3, T4] or differential [T1-T2] reading
- Offset adjustment used for zero function to make relative measurements
- Stores 99 readings manually and 20M readings via 2G SD card
- Records readings with real date and time stamp
- User programmable sampling rate: 1 to 3600 seconds
- Min/max. and data hold functions
- Auto power off with disable function
- Built-in PC interface
- Complete with 6 AA batteries, four general purpose Type K bead wire temperature probes, SD card, and hard carrying case



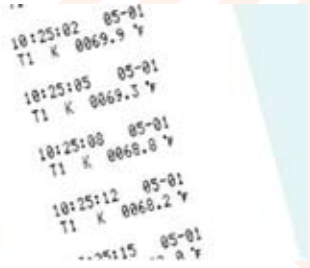
Order No.	Type	Description
EXZ000006	SDL200	4-Channel Datalogging Thermometer

Optional Temperature Probes:

- Model TP875 — Optional type K bead wire temperature probe measure from -58 to 1000°F (-50 to 538°C) with subminiature connector. Includes a banana adaptor connector for use with meters with banana adaptor inputs
- Model 850185 — Optional RTD (PT100) temperature probe measures from (-22 to 482°F/-30 to 250°C)
- Model TP200 and TP400 — Optional type K Pipe clamp temperature Probe for hands-free superheat/sub-cooling temperature measurement from -4°F to 200°F (-20°C to 93°C) for TP200 and -4 to 450°F (-20 to 232°C)

Specification	
Type J	-148 to 2192°F (-100 to 1200°C)
Type K	-148 to 2372°F (-100 to 1300°C)
Type T	-58 to 752°F (-50 to 400°C)
Type E	-58 to 1652°F (-50 to 900°C)
Type R	32 to 3092°F (0 to 1700°C)
Type S	32 to 2732°F (0 to 1500°C)
RTD (Pt100)	-327 to 1562°F (-200 to 850°C)
Resolution	0.1°/1°
Basic Accuracy	±0.4% rdg (+1.8°F/+1°C) Types J,K,E,T, Pt100
	±0.5% rdg (+2°F/+1°C) Types R,S
Datalogging	20M data records using a 2G SD card
Dimensions	7.2 x 2.9 x 1.9" (182 x 73 x 47.5mm)
Weight	17.6oz (500g)

Dual Input Thermometer Printer w/ Alarm



Features:

- Dual channels scan and display T1, T2, or (T1-T2) and simultaneously prints all 3 readings
- Four thermocouple type selections: K, J, T and E
- Display in °F or °C with 0.1°F/°C resolution
- Record max./min/avg readings for later recall
- Hi/lo alarm settings
- Go/no go digital signal output alarm jack for control and industrial automation
- Real time clock (hours, minutes, and seconds) with calendar
- Tripod mount for stationary use
- Built-in thermal printer allows user to program time interval between printouts
- Complete with carrying case, six 1.5V AAA batteries, 2 rolls thermal paper and Go/No Go Mini DIN alarm output cable

Specification	Range		Basic Accuracy
Type K	-328 to 32°F	(-200 to 0°C)	±(0.05% + 1.4°F or 0.7°C)
	32 to 1800°F	(0 to 981°C)	±(0.01% + 0.9°F or 0.5°C)
	1800 to 2431°F	(982 to 1333°C)	±(0.05% + 0.9°F or 0.5°C)
Type J	-328 to 32°F	(-200 to 0°C)	±(0.05% + 1.4°F or 0.7°C)
	32 to 1400°F	(0 to 760°C)	±(0.01% + 0.9°F or 0.5°C)
Type E	-328 to 32°F	(-200 to 0°C)	±(0.05% + 1.4°F or 0.7°C)
	32 to 1297°F	(0 to 703°C)	±(0.01% + 0.9°F or 0.5°C)
Type T	-328 to 32°F	(-200 to 0°C)	±(0.05% + 1.4°F or 0.7°C)
	32 to 752°F	(0 to 400°C)	±(0.01% + 0.9°F or 0.5°C)
Resolution	0.1°F/°C		
Sampling Rate	2 times/sec		
Printing Interval	Programmable From 5 sec. to 23 Hours 59 Min. 59 Sec.		
Power Supply	6 AAA batteries/Optional AC Adaptor		
Battery Life	70 Hours (Not Including Printer)		
Dimensions	7.6 x 3 x 1.5" (193 x 74 x 37mm)		
Weight	12.9oz (365g Including Batteries)		

Order No.	Type	Description
EXZ000007	422324	Dual Input Thermometer Printer w/Alarm

Kawan Lama #1 Commercial & Industrial Supply Company

VIDEO BORESCOPE

EXTECH INSTRUMENTS A FLIR COMPANY

BR250 Video Borescope/Wireless Inspection Camera

Features:

- Detachable wireless color display can be viewed from a remote location up to 32ft (10m) from measurement point
- 2GB microSD memory card (included) for capturing images (JPEG) or video (AVI) for viewing on your PC
- Captured video and still images with date/time stamp can be played back on the wireless monitor or your PC
- 9mm diameter camera head with 39″ (1m) flexible gooseneck cable
- Video and images can also be transferred to your PC via the microSD card (with included SD adaptor) or USB cable (included) and viewed using windows®multimedia player
- Menus in 10 languages: English, Chinese, German, French, Spanish, Portuguese, Italian, Japanese, Dutch, and Russian
- Mini water-proof (IP67) 9mm camera head for high resolution viewing
- Four bright LED lamps with dimmer to illuminate viewed object
- Glare-free close-up field of view
- Optional BR200-EXT extension cable available for increasing viewing depth; 19mm diameter connector and 37″ (0.95m) cable length; Max. imum 2 extension cables can be connected to the borescope

Order No.	Type	Description
EX0000005	BR250	Wireless Inspection Camera

High Definition VideoScope Inspection Cameras

Includes SD memory card, 3.7V rechargable Li-Polymer battery, patch cable, AC adaptor, USB and AV cables, camera with cable, and hard carrying case

Features:

- Model HDV610 - 5.5mm diameter camera head with 1m flexible cable
  Model HDV620 - 5.8mm diameter camera head with 1m semi-rigid cable
- 5.7″ color LCD TFT with high definition 640 x 480 resolution
- Mini, high-resolution water-proof (IP67) camera head
- Water-proof (IP67) camera head and housing; housing is drop-proof (2m)
- Four bright LED lamps with dimmer to illuminate viewed object
- Glare-free close-up field of view
- SD memory card included to store >14,600 images
- Video recording (up to 4 hours) with Voice annotation
- AV output for viewing images and video directly on a monitor
- Video and images can be transferred to a PC via the SD card or USB output
- An optional wireless transmitter (HDV-WTX) connects to your camera cable and allows you to transmit video up to 100ft (30m) from the measurement point to your monitor

Applications:

- Home inspection: Inspect in walls for mold, insect infestation, electrical wire or water pipe location
- HVAC: Inspect inside ducts, behind motors and compressors
- Automotive: View inside or around engines and transmissions
- Government: Safety and security inspections
- Industrial: Inspect weld integrity, process equipment, gears, molding machines
- Aerospace: Aircraft inspections for debris, cracks or other damage

Specification	
Camera	
Minimum Focus Distance	2.36″ (60mm); macro: 0.59″ (15mm)
Field of View	65°
Shaft Diameter	HDV610: 0.22″ (5.5mm)
	HDV620: 0.23″ (5.8mm)
Working Length	39″ (1m)
Borescope	
LCD Screen Type	5.7″ color TFT
Pixels	640 x 480 (High Definition)
SD Card	1GB (included)
Operating	4 hours

Order No.	Type	Description
EXZ000008	HDV610	High Definition VideoScope (5.5mm diameter/1m Flexible Cable)

ANEMOMETER

EXTECH INSTRUMENTS A FLIR COMPANY

Mini Thermo-Anemometer Series

Features:
- Fold up protective housing extends to 9" for better reach
- Large dual display of air velocity and temperature
- Data Hold to freeze most recent display
- Auto shutoff 15 minutes after last key is pressed
- Water resistant housing floats and Drop tested to 6 feet
- Complete with CR2032 lithium battery and lanyard

Temperature and Windchill:
- Measures from -18 to 50°C

Windspeed:
- Measures ft/min, MPH, m/s, km/h, Knots and Beaufort Force
- Selectable averaging function of 5, 10, or 13 second intervals
- Replaceable non-corrosive plastic wind vane (impeller)

Model 45158 Additional Features:
Relative Humidity and Dew Point:
- Dual display of air velocity and relative humidity
- Measures RH from 10% to 95%
- Measure Dew Point from 32˚F to 122˚F

Specification	
Ft/Min (Feet Per Minute)	100 to 5500 ft/min
M/S (Meters Per Second)	0.5 to 28m/s
Km/H (Kilometers Per Hour	1.8 to 100.6 km/h
Mph (Miles Per Hour)	1.1 to 62.5 MPH
Temperature	-18 to 50°C
Relative Humidity (Model 45158)	10% to 95%
Dew Point (Model 45158)	32°F to 122°F

Order No.	Type	Description
EX0000057	45118	Mini Thermo-Anemometer Series

45170 Pocket Hygro-Thermo-Anemometer-Light Meter

Specification	
ft/min (feet per minute)	80 to 5910 ft/Min.
m/s (meters per second)	0.4 to 30m/s
km/h (kilometers per hour	1.4 to 108km/h
MPH (Miles per hour)	0.9 to 67MPH
Foot Candles	0 to 1860Fc
Lux	0 to 20,000Lux
% Relative Humidity	10 to 95%RH
Temperature (thermistor)	0 to 50°C
Temperature (Type K)	-100°C to 1300°C

Features:
- Ergonomic pocket size housing with large dual LCD simultaneous display of temperature and air velocity or relative humidity
- Characters on display reverse direction depending on Hygro-thermo-anemometer or light mode
- Data Hold to freeze the displayed value
- Records min/max. readings
- Built-in low friction vane wheel improves accuracy of air velocity in ft/min, MPH, m/s, km/h, and Knots
- Built-in precision thin-film capacitance humidity sensor for fast response
- Built in thermistor for ambient temperature measurements
- Type K input measures temperature to 1300°C using optional type K probe
- Utilizes precision photo diode and color correction filter
- Cosine and color corrected light measurements
- Defaults to last function when powered off
- Auto power off 10 minutes after last key is pressed with disable feature
- Low Battery and overrange indication
- Complete with built-in Humidity sensor, Light sensor and Vane wheel, wrist strap, and 9V battery. (Optional Type K thermocouple probe)

Order No.	Type	Description
EX0000008	45170	Pocket Hygro-Thermo-Anemometer-Light Meter

FORCE GAUGE

High Capacity Force Gauge With Pc Interface

Features:
- Ranges: 0.05 to 100kg
  0.05 to 220lbs
  0.2 to 980 Newton
- Basic accuracy of 0.5%
- Tension or compression, peak hold and zero functions
- Positive/reverse display for easy readability
- Large LCD with back light feature
- RS-232 PC interface
- Optional software available (407001)
- Complete with tension and compression adaptors, six AA 1.5V batteries, and case Complete

Order No.	Type	Description
	475055	Force Gauge

MOISTURE METER

EXTECH INSTRUMENTS A FLIR COMPANY

Combination Pin/Pinless Moisture Meter

Features:

- WME (wood moisture equivalent) pin moisture reading
- Relative pinless moisture reading for non-invasive measurement
- Digital LCD readout with backlighting feature and tri-color LED bargraph
- Quickly indicates the moisture content of materials
- Pinless measurement depth to 0.75" (22mm) below the surface
- Electro-magnetic sensing technology
- Built-in calibration check
- Replaceable measurement electrode pins
- Low battery indication
- Cap protects pins during storage and can be snapped on to the side of the housing during use
- Complete with 9V battery, replacement pins, protective cap, and pouch case

Specification	Non-Penetrating (Pinless)	Pin
Range	0 to 99.9 (relative)	6.0 to 94.8% WME
Max. Resolution	0.1	0.10%

Order No.	Type	Description
EX0000050	MO260	Combination Pin/Pinless Moisture Meter

MO290 Pinless Moisture Psychrometers + IR Thermometer

Features:

- Quickly indicates the moisture content of materials with pinless technology without damaging the surface; remote pin-type probe (MO290-P included) allows for contact moisture readings (3ft/0.9m cable length)
- Works on multiple wood types and other building materials
- Easy to read, large dual display with automatic backlight feature
- Simultaneously displays moisture value of wood or material being tested, air temperature, ir temperature, or Humidity
- Pinless measurement depth to 0.75" (19mm) below the surface
- Programmable high/low moisture and humidity alarms
- Designed with a patented IR circuit to measure non-contact surface temperature; 8:1 distance to spot ratio with 0.95 fixed emissivity
- Built-in humidity/temperature probe measures relative humidity, air temperature plus grains per pound (GPP)/(g/kg), Dew point (DP), vapor pressure, and condensation point
- Automatic calculation of differential temperature (IR - DP) to determine condensation point
- Min/max. and data hold
- Auto power off and low battery indication
- Complete with pin moisture probe with cable, 9V battery and case

Specifications	
Sensor Type	Non-Penetrating (Pinless)
Pinless Moisture	0 to 99.9 (Relative)
Pinless Depth	up to 0.75" (19mm)
Pin-Type Moisture (Probe Included)	0 to 99.9%
Max. Resolution	0.1, 0.1°C
Humidity	0 to 100%RH
Temperature (Air)	-29 to 77°C
Temperature (IR)	-20 to 200°C
Vapor Pressure	0 to 20.0kPA
Dew Point	-30 to 100°C
Mixing Ratio	0 to 160g/kg
Field of View	8:1 Distance to Target Ratio
Emissivity	0.95 Fixed

Order No.	Type	Description
EX0000006	MO290	Pinless Moisture Psychrometers + IR Thermometer

SOUND LEVEL METER

Sound Level Meter with Backlit Display

Features:
- High accuracy meets ANSI and IEC 651 type 2 standards
- High and low measuring ranges
- Data Hold and Max. hold functions
- Backlit display to view in dimly lit area
- Complete with microphone wind screen and 9V battery

Applications:
- Enforcing community noise ordinances
- Meeting government safety issues (OSHA)
- Installing audio systems
- Product noise certification and reduction

Specification	
Display Counts	2000 count LCD
Range	Low: 35 to 100dB
	High: 65 to 130dB
Basic Accuracy	±1.5dB
Weighting (A and C)	Yes
Response Time (Fast/Slow)	Yes
Condenser Microphone	0.5" (12.7mm)

Order No.	Type	Description
EX0000010	407732	Sound Level Meter with Backlit Display

4-CHANNEL VIBRATION METER/DATALOGGER

Large Backlit Display

Features:
- Selectable data sampling rate: 5, 10, 30, 60, 120, 300, 600 seconds
- Remote vibration sensor with magnetic adapter on 39"(1m) cable
- Wide frequency range of 10Hz to 1kHz
- Basic accuracy of ±(5% + 2 digits)
- RMS or peak value measurement modes
- Datalogger date/time stamps and stores readings on an SD card in Excel® format for easy transfer to a PC
- Data hold freezes the reading in the display
- Auto power off saves battery life
- Meets ISO2954 standard
- Complete with 4 remote sensors, magnetic mounts, 8 x AA batteries, 100-240V universal AC adaptor, SD card, and durable hard carrying case

Applications:
- Motors, bearings
- Fans
- Pumps
- Rotating machinery
- Plant maintenance

Specification	
Acceleration	656ft/s2, 200m/s2, 20.39g (peak)
Velocity	7.87in/s, 200mm/s, 19.99cm/s (peak)
Displacement	0.078in, 2mm (peak-to-peak)
Resolution	1ft/s2, 0.1m/s2, 0.01g; 0.01in/s, 0.1mm/s, 0.01cm/s; 0.001in, 0.001mm
Basic accuracy	±(5%+2 digits)
Memory	20M data records using 2G SD card
Dimensions	8 x 3 x 1.5" (203 x 76 x 38mm)
Weight	1.13lbs (515g)

Order No.	Type	Description
EXZ000010	VB500	4-Channel Vibration Meter/Datalogger

LASER DISTANCE METER

Laser Distance Meter

Features:
- Measures from 2" to 164' (0.05 to 50m)
- Automatically calculates area and volume
- Indirect measurement using pythagorean Theorem
- Continuous measurement function with Min/max. Distance tracking updates every 0.5 Seconds
- Addition/subtraction
- Front or rear edge reference
- Low battery indicator
- Double molded housing (IP54)
- Auto power off
- Complete with carrying case and 2 AAA batteries

Specification	
Measurement Range	2" to 164' (0.5 to 50m)
Resolution	0.001" (0.001m)
Length Add Calculation	99'11" (99.99m)
Area Calculation	999.99 sq. ft. (999.99m2)
Laser Power Off	After 30 Seconds

Order No.	Type	Description
EX0000011	DT300	Laser Distance Meter

LCR METER

Passive Component LCR Meter

Features:
- Simultaneous 20,000/10,000 count backlit display of the primary parameter (L, C or R) with the secondary parameter of Q (quality), D (dissipation) or R (resistance)
- Set Hi/Lo limits using absolute values or percentage limits
- Parallel or Series equivalent circuit
- Max. /min/avg; Auto power off with disable
- Automatic blown fuse indication
- Built-in test fixture or use external test leads
- Open and Short Zero removes unwanted stray impedances from the measurement
- Relative mode, zero, or supplied reference
- Complete with test leads, 9V battery, software, cable, and protective holster

Specification	
Inductance	2000.0µH, 20.000mH, 200.00mH, 2000.0mH
	20.000H, 200.00H, 2000.0H, 10000H
Capacitance	2000.0pF, 20.000nF, 200.00nF, 2000.0nF
	20.000µF, 200.00µF, 2000.0µF, 10.000mF
Resistance	20.000Ω, 200.00Ω, 20.000kΩ, 20.000kΩ
	200.00kΩ, 20.000MΩ, 10.000MΩ
DF (with C)	0 to 0.9999
Q	0 to 9999
Test Frequency	120Hz and 1kHz

Order No.	Type	Description
EXZ000011	380193	Passive Component LCR Meter

OSCILLOSCOPE

High Resolution Micro-Ohm Meter

Features:

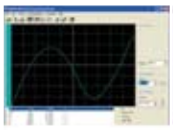
- 6 ranges with 3 sub-ranges in each current range
- Measurement of resistive and inductive materials
- Auto or manual ranging
- High resolution to 1µ
- 5-Digit backlit LCD
- Built-in comparator for hi/lo resistance testing with 20 sets of prestored values
- Store/recall up to 3000 measurements
- 10A Max. imum test current
- Cable length measurement (feet or meters)
- PC interface
- Complete with 4-wire cables with kelvin clip connectors, rechargeable Li-polymer battery, AC adapter/charger, software and USB cable, and soft carrying case

Specification	Range	Resolution	Current	Accuracy (%rdg)
Resistance	60m	1µ	10A	±(0.25% + 25µΩ)
	600m	10µ	1A	±(0.25% + 250µΩ)
	6	100µ	100mA	±(0.25% + 2.5mΩ)
	60	1m	10mA	±(0.25% + 25mΩ)
	600	10m	1mA	±(0.25% + 250mΩ)
	6k	100m	100µA	±(0.75% + 3Ω)
Power	Rechargeable Li-Polymer Battery			
Dimensions/ Weight	10.1 x 6.1 x 2.2" (257 x 155 x 57mm)/ 2.6lb (1160g)			

Order No.	Type	Description
EXZ000012	UM200	Precision Micro-Ohm Meter

MICRO-OHM METER

20MHz 2-Channel Digital Oscilloscope



Features:

- 20MHz bandwidth
- Auto-set function optimizes the position, range, timebase, and triggering to assure a stable display of virtually any waveform
- Peak detect function for 50ns glitch capture
- XY Mode
- FFT function to view component frequencies
- Trigger hold off function stabilizes complex waveforms
- Twenty automatic measurements
- Waveform math: add, subtract, multiply, and divide
- Average mode for smoothing waveforms
- Persistence mode for observing dynamic signals
- Store and recall up to 4 waveform screens and setups
- USB interface and software for transferring waveforms and data

Specification	
Display Size	96mm color LCD; 320 x 240 Pixels
Bandwidth	20MHz
Real time sample rate	100MS/s
Risetime	17.5ns
Channels	2
Record Length	6K Points Per Channel
Glitch Capture	50ns
Vertical Sensitivity	5mV to 5V/div
Vertical Resolution	8 Bits
Timebase Range	5ns to 5s/div
Sample Mode	Sample, Average, Peak Detect
Trigger Source	CH1, CH2
Trigger Coupling	AC, DC
Input impedance	1MΩ/20pF
Max. Input Voltage	400V (peak)
Cursor Measurement	Voltage and Time

Order No.	Type	Description
EXZ000013	MS420	20MHz Dual Channel Digital Oscilloscope

BATTERY CAPACITY TESTER

AC milliohmmeter checks Battery Condition in seconds

Features:

- On-line testing without disconnecting battery
- Built-in datalogger stores up to 999 tests
- Simultaneously measures DC voltage and AC milliohms
- Auto power off
- Includes Windows® 95/98/NT/2000/ME/XP compatible software for downloading readings to a PC

Specifications	Range	Resolution	Basic Accuracy
Resistance	40mΩ, 400mΩ,	10µΩ, 100µΩ,	±(1% Reading ± 8d)
	4Ω, 40Ω	1mΩ, 10mΩ	
Voltage	4V, 40V	1mV, 10mV	±(0.1% Reading ±6d)
Max. Input Voltage	50VDC		
Power	6 AAA batteries		
Battery life	7 hours		
Dimensions	9.75 x 4 x 1.75" (250 x 100 x 45 mm)		
Weight	17.5oz (500g)		

Order No.	Type	Description
EXZ000014	BT100	Battery Capacity Tester

POWER ANALYZER

3-Phase True RMS Clamp-On Power Analyzer

Features:

- 4-Digit 9999 count dual display LCD
- Clamp jaws open to 2.2" (55mm) for 1000MCM conductors
- Measures true Power (AC, DC)
- Measures reactive(KVAR), and apparent(KVA) power to 1200KW
- Display lead/lag current/voltage phase shift in degrees
- Store and recall last four measurements
- Basic measurements: watts, volts, amps, and frequency
- Advanced: KVA, KVAR, power factor, and phase angle
- Wide ranges to 1200kW, 600VAC, 800VDC, and 2000A
- Display lead/lag current/voltage phase shift in degrees
- Store/recall last 4 readings
- DC current auto-zero
- Dual displays: kW+PF, kVA+kVAR, phase angle + Hz, Volts + Hz, or Amps + Hz
- Advanced relative and min/max. Functions
- Data hold
- Complete with test leads, carrying case, and 9V battery

Specification	Range	Resolution
True Power (W)	1200kW	0.01/0.1kW
Reactve (KVAR) Power	1200KVAR	0.01/0.1KVAR
Apparent (KVA) Power	1200KVA	0.01/0.1KVA
Power Factor (PF)	0.2 to 1	0.01
Phase Angle (f)	-90° to +90°	0.1°
AC/DC Current	2000A	0.1/1A
AC/DC Voltage	600VAC/800VDC	0.1/1V
Frequency	40 to 400Hz	0.1Hz

Order No.	Type	Description
EXZ000015	**382075**	2000A AC/DC 3-Phase Clamp Power Analyzer

HEAT STRESS WBGT METER

Wet Bulb Globe Temperature

Features:

- High accuracy meets ANSI and IEC 651 Type Heat stress index measures how hot it feels when Humidity is combined with temperature, air Movement, and radiant heat
- Black globe temperature (TG) monitors the effects of direct solarradiation on an exposed surface
- Air Temperature (TA) plus relative humidity (RH)
- Selectable units of °F and °C
- In/out function displays the WGBT value with or without direct sun exposure
- Auto power off with override
- Built-in RS-232 interface with optional Windows® compatible software
- Complete with two AAA batteries

Applications:

- Athletic training
- Monitor outdoor working conditions
- Manufacturing

Specification	Range	Basic Accuracy
Wet Bulb Globe Temperature (WBGT)	32 to 122°F (0 to 50°C)	±4°F/2°C
Black Globe Temperature (TG)	32 to 176°F (0 to 80°C)	±4°F/2°C
Air Temperature (TA)	32 to 122°°F (0 to 50°C)	±1.8°F/1.0°C
Humidity	0 to 100%RH	±3%RH
Dimensions	Meter: 10 x 1.9 x 1.1" (254 x 48.7 x 29.4mm)	
	Ball: 1.6" dia, 1.4" high (40mm diameter, 35mm high)	
Weight	4.8oz (136g)	

Order No.	Type	Description
EXZ000016	**HT30**	Heat Stress WBGT Meter

HEAVY DUTY DIFFERENTIAL PRESSURE MANOMETER

Wide range dual input

Features:

- Dual differential inputs with internal sensors
- Wide (±802 inches of water) measurement range with high resolution
- Displays 8 types of pressure units: mbar, psi, kg/cm2, mmHg, inHg, mH2O, inH2O, and atm
- Record/recall MIN and Max. readings
- Data hold and auto power off
- Zero function for offset measurements
- Basic accuracy: ±1% of full scale (includes hysteresis)
- Large dual LCD display
- Metal input connections with two quick-disconnect fittings
- Built-in RS-232 PC interface with optional Data Acquisition software and datalogger
- Includes 2 quick disconnect-fittings, 9V battery, protective rubber holster with stand, and carrying case

Specification	Range	Resolution	Basic Accuracy
mbar	±2000mbar	1mbar	±2%FS
psi	±29psi	0.02psi	±1%FS
kg/cm2	±2.040kg/cm2	0.001kg/cm2	±1%FS
mmHg	±1500mmHg	1mmHg	±1%FS
inHg	± 59.05inHg	0.05inHg	±1%FS
mH2O	±20.40mH2O	0.01mH2O	±1%FS
inH2O	±802.0inH2O	0.5inH2O	±1%FS
atm	±1.974atm	0.001atm	±1%FS
Dimensions	7 x 2.9 x 1.3" (178 x 74 x 33mm)		
Weight	12oz (350g)		

Order No.	Type	Description
EXZ000017	**407910**	Heavy Duty Manometer

Current and Voltage Calibrators/Meter

Includes:
9V battery, calibration cable withspade lug terminals, carrying case, and 100V-240V AC Universal Adaptor (50/60Hz)

Features:
- Upgraded models now feature super large LCD display and touch keypad
- LCD displays readings in mA or as a % of the 0 to 24mA range or as mV in voltage ranges
- Five stored calibration values for fast calibrations
- 412355A current + voltage calibrator provides adjustable 0 to 24mA and 0 to 20V calibration source
- 412300A Current calibrator provides 0 to 24mA output displayed as mA or% and provides 24VDC power to measure a two-wire current loop
- Complete with 9V battery, calibration cable with spade lug terminals, carrying case, and 100V-240V AC universal adaptor (50/60Hz)

Applications:
- Applications:
- Setup and calibration of process devices such as transducers, indicators, recorders and controllers
- Troubleshooting and field service
- Product design

Measurements	Range	
Operating Modes		
Source	Output 0 to 24mA Current For Loads Up to 1000 Ohms	
	Output 0 to 20V (412355A only)	
Measure	0 to 50mA Current Signal	
	0 to 19.99V (412355A only)	
Power/Measure	Provides Power (24VDC) to Loop and Measures Current (412300A only)	
Input/Output	**Ranges and Display**	**Resolution**
	-25.0 to 125.0% (Representing 0 to 24mA)	0.1%
	0 to 19.99mA	0.01mA
	0 to 24.0mA	0.1mA
	0 to 1999mV	1mV
	0 to 20.00V	10mV
Accuracy	0.075% ±1 digit	
Power	9V Battery or AC Adaptor	
Dims/Wt	3.8 x 4.2 x 1.8" (96 x 108 x 45mm) folded/ 12oz (340g)	

Order No.	Type	Description
EXZ000018	**412300A**	Current Calibrator/Meter

Oyster® Multifunction Process Calibrator

The Oyster® trademarked design with the convenient adjustable flip up display for better viewing angle

Features:
- Source 0 to 24mA with 0.01mA resolution
- Measure 0 to 50mA (0.1mA resolution)
- Select Type J, K, or T thermocouple for precision calibrations in °F/°C or mV
- Output 0 to 1999mV or 0 to 10.00V
- Measure 0 to 19.99V
- Single/continuous step function for voltage and current
- Self-contained 24V loop power supply drives current loads up to 1000Ω
- Memory for 5 user settable output values of each type for fast calibrations
- Complete with six AA batteries and calibration cable with spade lug terminals

Specifications	Range	Accuracy (of reading)
DC Source		
Current	0 to 24mA, -25% to +125%	±(0.075% + 1 digit) or ± 3 digits, whichever is greater
Voltage	0 to 10V	±(0.075% + 1 digit) or ± 3 digits, whichever is greater
Type J	-58 to 1830°F (-50 to 1000°C)	±(0.15% + 1.8°F or 1°C)
Type K	-58 to 2498°F (-50 to 1370°C)	±(0.15% + 1.8°F or 1°C)
Type T	-184 to 752°F (-120 to 400°C)	±(0.15% + 1.8°F or 1°C)
Loop Power	24V	±(10µV ± 1 digit)
Max. . Load	1000 @ 24mA	
DC Measure		
Current	0 to 50mA, -25% to +230%	±(0.075% + 1 digit) or ± 3 digits, whichever is greater
Voltage	0 to 20V	±(0.075% + 1 digit) or ± 3 digits, whichever is greater
Type J	-58 to 1830°F (-50 to 1000°C)	±(0.15% + 1.8°F or 1°C)
Type K	-58 to 2498°F (-50 to 1370°C)	±(0.15% + 1.8°F or 1°C)
Type T	-184 to 752°F (-120 to 400°C)	±(0.15% + 1.8°F or 1°C)
Dimensions/ Weight	3.8 x 4.7 x 2.0" (96 x 118 x 45mm)/12oz (340g)	

Order No.	Type	Description
EXZ000019	**412400**	Multifunction Calibrator

OCTAVE BAND SOUND ANALYZER

Real Time Octave Band Analyzer

Applications:

- Real time analysis of noise from any source such as machinery or vehicles
- Monitor office or plant noise and store data for later reference and analysis
- Maintain noise level statistics for internal and external audits
- Perform machinery noise monitoring or use for noise reduction programs

Software screen

Digital Display

Features:

- Wide 100dB range of 30 to 130dB
- 160 x160 dot matrix backlit LCD displays Leq, LE, Lmax. , Lmin and Lp
- Built-in memory stores up to 12,280 records in SLM mode and 1024 data points in 1/1 or 1/3 octave mode
- Stored data can be easily transferred to a PC via RS-232 interface and analyzed using software and cable provided
- A, C and Flat weighting with fast or slow response
- 25Hz to 10kHz frequency response
- Meets ANSI and IEC Type 2 standards
- Internal self test when powered ON
- Detachable 0.52"(13.2mm) diameter condenser microphone and Tripod mount provided on rear
- Analog AC/DC recorder output
- Real time clock with year, month, day, hour, minute and second display
- Optional microphone extension cable for measurements in enclosures and other remote locations (407764-EXT)
- Complete with microphone wind cover, PC software on CD, serial cable, four type C size batteries, adjustment screwdriver,120VAC adaptor and carrying case

Complete with windows® 95/98/NT/2000/ME compatible software, Serial cable, 4 x C batteries, mini screwdriver, 120V AC adaptor, and case.

Specification	
Applicable Standards	ANSI S1.4 Type 2, EN IEC 60651, EN IEC 60804, and EN IEC 1260-1995
Accuracy	±1.5dB (ref 94dB @ 1kHz)
Measurement Range / Function	30dB to 130dB / La, Lc, Lp, Leq, LE, LMax. , Lmin
Frequency Range	25Hz ~ 10kHz
Sound Level Meter Display	Integrating SLM: Digital, 4 Digits with Bargraph
Real Time Analyzer Display	Graphical, Bargraph with cursor
1/1- 1/3 Analyzer Level Range	30 to 130dB
1/1 Octave and 1/3 Octave	1/1 Octave band center frequencies: (9 bands);
	1/3 Octave band center frequencies: (27 bands):
Signal Output	AC output: 2 Vrms (at full scale); DC output: 10mVDC/dB
Power	Four type C size 1.5V batteries, External DC power: 6V, 1A
Safety/Warranty	CE approved, one year warranty
Dimensions/Weight	13.6 x 3.9 x 2.4" (345 x 100 x 60mm)/ 33.5oz (950g)

Order No.	Type	Description
EXZ000020	407790	Octave Band Sound Analyzer

PORTABLE DISSOLVED OXYGEN METER

EXTECH INSTRUMENTS A FLIR COMPANY

9-in-1 Meter with Lab Performance

Read to use complete kit includes all the necessary accessories stored in a hard carrying case for easy transportation. Ideal for field use.

Large blue backlit dual LCD display with calibration and memory indicators

Features:

- Automatic salinity compensation and manual barometric pressure compensation for DO measurements
- Waterproof housing (meets IP57)
- One button pH calibration (4, 7, and 10pH)
- Choice of 3 point pH calibration for better accuracy
- One point conductivity calibration – automatically recognizes 8 calibration solutions from USA, Europe and China series
- Automatic temperature compensation (non-linear compensation for purified water <10µS/cm to improve measuring accuracy)
- Memory stores up to 400 readings with series number, measured value and temperature
- Large blue backlit dual LCD display
- Auto power off saves battery life with disable function
- Complete with dissolved oxygen probe with 3 membrane caps and DO internal fill solution (30mL), pH/mV/temperature electrode, polymer conductivity cell, pH calbration solutions (4, 7, and 10pH),conductivity calibration solution (1413µS), 2 AA batteries, and hard carrying case

Specification	
Dissolved Oxygen	Concentration: 0 to 40.00mg/ L; Saturation: 0 to 200.0%
pH	-2.00 to 19.99pH
mV	-1999 to + 1999mV
Conductivity	0.00 to 199.9mS
TDS	0 to 100g/L
Salinity	0 to 100ppt
Resistivity	0 to 100MΩ • cm
Temperature	32 to 212°F (0 to 100°C), pH and mV
	32 to 122°F (0 to 50°C), All Other Ranges
Resolution	0.01m/gL, 0.1%, 0.01pH, 1mV, 0.01µS, 0.1°
Accuracy	±0.02pH; ±0.15mV; ±1.5%FS; ±1°F/±0.5°C
Power	Two AA Batteries
Dimension	Meter: 4.7 x 2.6 x 1.2" (120 x 65 x 31mm)
	Kit: 14 x 10.75 x 3" (355.6 x 273 x 76.2mm)
Weight	Meter: 6.3oz (180g)
	Kit: 3.75lbs (1.7kg)

Order No.	Type	Description
EXZ000021	DO700	Waterproof pH/mV/Conductivity/ TDS/Salinity/Temp Meter

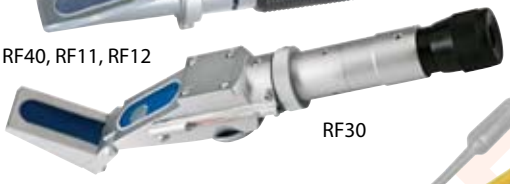
Kawan Lama #1 Commercial & Industrial Supply Company

PORTABLE REFRACTOMETER

Measure the concentration of Sugar, Salt, Lubricants, Antifreeze, Cutting Fluids and more

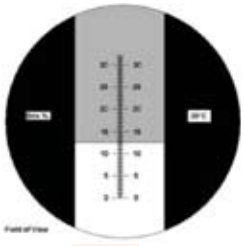
RF18, RF20

RF10, RF16

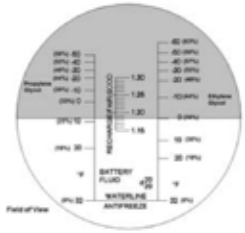


RF15, RF40, RF11, RF12

RF30



RF10, 15 - Scale view through eyepiece



RF40 - Scale view through eyepiece

Features:

- Easy to operate refractometers provide accurate and repeatable measurements on easy to read scales
- Automatic temperature compensation models available for sugar, salt, lubricants, cutting fluids, and antifreeze
- Requires only 2 or 3 drops of solution
- The prism and lens with a simple focus adjustment provides repeatable results
- Complete with case, calibration screwdriver, and calibration solution

Type	Description
RF16	0 to 10% Brix Refractometer
RF11	0 to 10% Brix Refractometer with ATC
RF18	0 to 18% Brix Refractometer
RF12	0 to 18% Brix Refractometer with ATC
RF10	0 to 32% Brix Refractometer
RF15	0 to 32% Brix Refractometer with ATC
RF20	Salinity Refractometer with ATC
RF40	Battery Coolant/Glycol Refractometer with ATC (°F)
RF41	Battery Coolant/Glycol Refractometer with ATC (°C)
RF30	Triple Range General Service Brix Refractometer

Specification				
Model	Type	Ranges	Resolution	Accuracy
RF16	Sucrose	0 to 10% Brix	0.1	±0.1%
RF11	Sucrose (ATC)	0 to 10% (10 to 30°C)	0.1	±0.1%
RF18	Lubricants/ Cutting fluids	0 to 18% Brix	0.2	±0.2%
RF12	Lubricants/Cutting fluids (ATC)	0 to 18% Brix (10 to 30°C)	0.2	±0.2%
RF10	Sucrose	0 to 32% Brix	0.2	±0.2%
RF15	Sucrose (ATC)	0 to 32% Brix (10 to 30°C)	0.2	±0.2%
RF20	Salt (ATC)	0 to 100ppt (10 to 30°C)	0.001	±0.1‰
	1.000 to 1.070 Refractive Index			
RF40	Coolant (ATC)	-60 to 32°F Propylene Glycol freeze point	2°F	±2%
	-60 to 25°F Ethylene Glycol freeze point	2°F	±2%	
	1.15 to 1.30 Specific Gravity of Battery Acid	0.01		
RF41	Coolant (ATC)	-50 to 0°C Propylene Glycol freeze point	1°C	±2%
	-50 to 0°C Ethylene Glycol freeze point	1°C	±2%	
	1.15 to 1.30 Specific Gravity of Battery Acid	0.01		
RF30	Triple Range	0 to 41% Brix	0.2	±0.2%
	General Service	42 to 71% Brix	0.2	±0.2%
	72 to 90% Brix	0.2	±0.2%	
Dimensions/Wt	RF10/RF15: 6.6 x 1.6 x 1.2" (170 x 40 x 30mm)/ 7oz (200g);			
	RF11/RF16: 7.5 x 1.6 x 1.2" (190 x 40 x 30mm)/ 6.5oz (185g);			
	RF12/RF18: 6.7 x 1.6 x 1.2" (170 x 40 x 30mm)/ 6.5oz (185g);			
	RF20: 7.6 x 1.5 x 1.5" (194 x 38 x 38mm)/ 8oz (227g);			
	RF40/RF41: 6.2 x 1.6 x 1.2" (160 x 40 x 30mm)/ 6.3oz (180g)			
	RF30: 7.9 x 1.5 x 1.1" (200 x 38 x 28mm)/ 21.86oz (620g)			

Conversion Table

• Length

cm	feet	inch	km	league	league (nautical)	metre	mile	milimetre	yard
1	0.03280	0.394	0.00001	0.000002	0.000001	0.01	0.000006	10	0.010936
30.48	1	12	0.00030	0.000063	0.000054	0.304	0.000189	304.8	0.33
2.54	0.083	1	0.00002	0.000005	0.000004	0.025	0.000015	25.4	0.027
100000	3281	39370	1	0.020	0.179	1000	0.621371	1000000	1094
482804	15840	190080	4.828	1	0.868	4828	3	4828040	5280
555600	18228	218740	5.55	1.15	1	5556	3.452	5556000	6076
100	3.280	39.37	0.001	0.000207	0.000179	1	0.000621	1000	1.1
160934	5280	63360	1.609	0.33	0.29	1609	1	1609340	2.7777
0.1	0.003	0.040	0.000001	2.07	1.8	0.001	6.21	1	0.001
91.44	3	36	0.00091	0.000189	0.000164	0.9144	0.000568	914.4	1

• Weight

grain	gram	kilogram	lbs	ounce	pound	ton
1	0.0647	0.000064	0.000142	0.002	0.000142	6.48
15.432	1	0.000999	0.002	0.035	0.002	10
15432	999.976	1	2.20	35.27	2.20	0.00099
7000	453.592	0.453	1	16	1	0.00045
437.5	28.349	0.028	0.062	1	0.062	0.00003
7000	453.592	0.453	1	16	1	0.00045
15432358	1000000	1000	2205	35274	2205	1

• Power

Horsepower (electric)	kiloWatt	Watt
1	0.75	746
1.34	1	999.64
0.001340	0.000746	1

• Volume

cm^3	m^3	liter	$inch^3$	$foot^3$	$yard^3$	gallon (UK)	Drum (metric,petroleum)	Barrel (UK)
1	0.000001	0.001	0.061	0.000035	0.000001	0.000219	0.000005	0.000006
1000000	1	1000	61024	35.3	1.30	220	5	6.11
1000	0.001	1	61.024	0.035	0.001	0.219	0.005	0.006
16	0.000016	0.016	1	0.000565	0.000020	0.003	0.00008	0.00009
28317	0.028	28.3	1728	1	0.037	6.2	0.141	0.17
764555	0.764	764.5	46656	27	1	168	4	4.6
4546	0.0045	4.5	277.4	0.160	0.005	1	0.022	0.027
200000	0.2	200	12205	7	0.26	44	1	1.22
163659.24	0.16	164	9987	5.78	0.21	36	0.8	1

• Temperature

Degree celcius	Degree fahrenheit	Degree rankine	Degree reaumur	Kelvin
1	33.8	493.47	0.8	274.15
-17.22	1	460.674	-13.776	256
-272.60	-458.68	1	-218.08	0.55
1.25	34.25	494	1	274.4
-272.15	-457.87	1.8	-217.72	1

• Power

Horsepower	kW	Horsepower	kW
1.341022	0.7457	8.046132	4.4742
2.682044	1.4914	9.387154	5.2199
4.023066	2.2371	10.728176	5.9656
5.364088	2.9828	12.069198	6.7113
6.705110	3.7285		

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